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Editorial Staff

Geo. S. Demuth and E. R. Root, Editors
H. H. Root, Assistant Editor
H. G. Rowe, M'n'g Editor

# Honey--Wanted--Honey

We are always in the market for honey. Mail fair-sized sample of extracted, state how much you have, how packed and your lowest price, delivered Cincinnati or f. o. b. your station. Comb honey, state how graded and how packed.

## C. H. W. Weber & Company

Cincinnati, Ohio

## *Mr. Beekeeper*

We have a large plant especially equipped to manufacture the supplies that you use. We guarantee all materials and workmanship. We ship anywhere. We allow early order discounts and make prompt shipments. **We pay the highest cash and trade prices for beeswax. Write for free illustrated catalog today.**

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# ROOT SERVICE FROM CHICAGO

## HONEY CONTAINERS

WHITE GLASS JARS.
WHITE GLASS TUMBLERS.
COMB HONEY CARTONS.
PARCEL POST CANS.
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"HONEY FOR SALE" SIGNS.
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## A. I. ROOT COMPANY OF CHICAGO

224-226 WEST HURON STREET, CHICAGO, ILLINOIS.

# How Will You Pack Your Crop?

## *Immediate Shipment*

**PAILS.**

2½-lb. cans, per carton of 100..$4.25
5-lb. pails, per carton of 100... 6.75
10-lb. pails, per carton of 50.... 5.00
10-lb. pails, per carton of 100... 9.75

**GLASS.**

White Flint Glass Screw-top Jars, Round and Tall, Packed 2 doz. in re-shipping case.

1-lb., per case in 1-case lots.....$1.35
1-lb., per case in 10-case lots.... 1.25
½-lb., per case in 1-case lots.... 1.15
½-lb., per case in 10-case lots.. 1.05

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Used 60-lb. square cans in crates, packed 2 cans to crate. (Good as new.)

1 case, 2 60-lb. cans, per case..$0.70
10 cases, 2 60-lb. cans, per case. .65
Subject to being on hand.

**BARRELS.**

Good tight honey barrels which will hold from 600 to 700 pounds of honey, $3.00 each.

**QUEEN BEES.**

**June and July Prices.**

Sel. Untested Italian Queens, $1 each.
Sel. Tested Italian Queens, $2 each.

**COMB FOUNDATION.**

Medium brood (average 8 sheets to the pound.)

1-lb. lots .....$0.77 per lb.
5-lb. lots ..... .65 per lb.
50-lb. lots ..... .58 per lb.
100-lb. lots ..... .50 per lb.

Thin surplus (average 28 sheets to the pound).

1-lb. lots .....$0.85 per lb.
5-lb. lots ..... .70 per lb.
50-lb. lots ..... .65 per lb.

All comb foundation made from pure domestic beeswax. No foreign wax or substitute used in Muth's Comb Foundation. Write for prices on other weights.

**SECTIONS.**

| | | | Grade 1. | Grade 2. |
|---|---|---|---|---|
| 100 | 4¼x1⅞ | beeway. | $1.35 | $1.20 |
| 500 | 4¼x1⅞ | beeway. | 6.40 | 5.75 |
| 1000 | 4¼x1⅞ | beeway. | 12.60 | 11.25 |
| 100 | 4¼x1½ | plain... | 1.20 | 1.10 |
| 500 | 4¼x1½ | plain... | 5.75 | 5.00 |
| 1000 | 4¼x1½ | plain... | 11.25 | 9.90 |
| 100 | 4x5x1⅜ | plain... | 1.20 | 1.10 |
| 500 | 4x5x1⅜ | plain... | 5.75 | 5.00 |
| 1000 | 4x5x1⅜ | plain... | 11.25 | 9.90 |

Write for prices on other sizes.

We need beeswax, great quantities. Ship your beeswax to us for quick remittance. We are paying 28c per pound in cash delivered to Cincinnati for choice yellow beeswax free from dirt. Send your old combs for rendering into beeswax. Honey season is on. Send a sample of your honey and tell us how much you want for it. No waiting for your money. We remit the day shipment is received.

## THE FRED W. MUTH CO.

*"THE BUSY BEE MEN"*

**CINCINNATI, O.**

**PEARL AND WALNUT STREETS**

# HONEY MARKETS

**U. S. GOVERNMENT MARKET REPORT. Information from Producing Areas (first half of July).**

CALIFORNIA POINTS.—Southern California.—Continued dry weather and hot spells have removed hope for a honey surplus on the part of most beekeepers in the sage districts. White sage is blooming, but is secreting little nectar. A few small lots have been extracted from wild buckwheat in favored localities, but the recent hot spell has curtailed that flow. What little honey is being secured by strong colonies is darker in color than usual and of strong flavor. The Imperial Valley crop is practically completed—one-third less than normal. Beekeepers are generally holding white orange extracted for 14-15c per lb. in carlots; dealers offering 12c per lb. and few sales made at that price. Few sales light amber alfalfa made at 7-7¼c per lb., beekeepers generally holding for 8-10c. Northern California.—Star thistle is in bloom and bees are working on it; but as everything is dry, the blossoms are secreting scantily, although the quality is good and heavy, and beekeepers are discouraged regarding prospects for a surplus crop. Some colonies near alfalfa fields are storing a surplus, but the nectar is failing in other sections due to lack of water. Grasshoppers are said to be less plentiful than last year. Many wells are drying up and water in creeks and rivers is far below lowest record. Beeswax has sold at 22c per lb. cash, 23c per lb. in trade.

PACIFIC NORTHWEST.—Unusually early haying has curtailed yield in parts of Washington from first-crop alfalfa. A flow is looked for from second bloom. In eastern Oregon shortage of water for irrigation, coupled with frequent high winds which render it difficult for bees to work, are making this a very poor year for beekeeping. Several cars of old crop honey still held in Washington.

INTERMOUNTAIN REGION.—The situation is extremely variable. Even in Utah and Idaho some sections report that they are experiencing a flow above the average where bees are strong enough to work. In general, however, the serious water shortage will make a short crop in Idaho, Nevada and Utah, and will curtail the flow in parts of the other states. It is said that only one valley in Nevada has a sufficient supply of water, and that the grasshoppers are so thick as to cut down the crop. Many colonies too weak to work effectively. The California hoof-and-mouth quarantine has been modified sufficiently to permit shipment of bees from California districts no longer infected. Extracting will not start in any quantity until the last of July. Very few sales reported of white alfalfa and sweet clover, ton lots 10c per lb., single 60s, 10-11c; few higher; small pails, wholesale, 11-12½c per lb. Carlots of white sweet clover sold recently at 8½-8¾c per lb.

ARIZONA POINTS.—Mesquite flow very light. Alfalfa yield has been fairly good. Good prospects for flow from cotton, and recent rains in sage belt may result in a crop from that source. Few sales light amber alfalfa reported at 7c per lb.

TEXAS POINTS.—Mesquite is now in full bloom, and a moderate surplus is expected. Cotton is beginning to bloom, and the plants look very well. In some sections of the cotton belt beetles, dragon flies and grasshoppers have been very harmful. Colonies are generally in fine condition, and fall honey plants are said to be looking well. Market not very active, but sales have been reported at the following prices: Extracted, per lb., 60-lb. cans, 9-12c; ton lots, 10c; 6/10s, 9-10c; 12/5s, 10-11c; 20/3s, 11-14c. Bulk comb, 60s, 14c; 6/10s, 12-16c; 12/5s, 13-17c; 20/3s, 14-18c. Beeswax has sold at 20-22c per lb. cash for light, 25c in trade; 18-20c per lb. for dark.

PLAINS AREA.—Clover is abundant and blooming well, and yield per colony should be good if weather permits bees to work, but total crop in many sections will be light as a result of heavy spring and winter losses.

EAST CENTRAL AND NORTH CENTRAL STATES.—A heavy clover flow is now on, and prospects are good for flow from basswood and fireweed. The cold spring and lack of stores, however, have left many colonies too weakened to gather a good crop. The disappearing disease is prevalent in parts of Ohio, where a heavy honey flow could generally be obtained if the rain would stop long enough to allow the bees to work. Fall honey plants look well. Few sales reported of white extracted in 60s at 12-14c; ton lots, 8½-12c; small pails, 15-16c per lb. No. 1 white comb, $4.80 per case.

SOUTHEASTERN STATES.—The Georgia crop is proving even heavier than expected a few weeks ago—the best beekeepers averaging 100 lbs. per colony; others 70 to 90 lbs. extracted. Conditions promising for the summer flow from Mexican clover and other plants. Yield in Alabama sweet-clover belt has been light, but enough to winter on, and some surplus may be obtained. Louisiana has had one of the best honey flows in years, in spite of drouth in some sections, and unless this is prolonged another good crop may be expected in the fall. Demand good. Prices show little change. Some are reported holding carlots in the tupelo region for 12c per lb. f. o. b.

PORTO RICO.—Arrivals small in the northern district, but by middle of July extraction should be general. Beekeepers receiving 70-73c per gal. at port of shipment for honey in 600-lb. barrels.

NORTHEASTERN STATES. — Adverse weather conditions still prevail much of the time, and although plants are vigorous, the outlook is for a clover yield below normal in New York State and light in Pennsylvania. Vermont will have a fairly good crop. More buckwheat is being sown than usual in both New York and Pennsylvania. Basswood trees are full of buds. Few sales light-amber extracted in 60s at 10c per lb.; amber, 9c per lb. One entire crop reported sold for 10½c per lb. delivered for white clover; 8c per lb. for buckwheat.

**Telegraphic Reports from Important Markets.**

CHICAGO.—No large arrivals since last report. Practically no demand. Practically no trading for last two weeks on both comb and extracted. Supplies of both comb and extracted very light. Practically no market. Extracted: Sales to bottlers and confectioners, per lb., Iowa, white clover, 10-11c; few sales extra fancy, 12c; light amber mixed flavors, 9-10c; dark mixed, 6-9c. Comb: Sales to retailers, 24-section cases Wisconsin, white clover and Colorado and Utah, white sweet clover and alfalfa fancy, $4.25-5.00; No. 2, $4.00-4.25; dark amber, $2.50-3.00. Beeswax: Trading very light. Market very dull. Illinois, bright, 26-28c, some 29c; dark, 25-26c per lb.

KANSAS CITY.—No carlot arrivals since last report. Supplies moderate. Demand slow, market dull. Sales to jobbers, extracted: Colorado, white alfalfa, 12½c per lb. Comb: Colorado, 24-section cases white alfalfa fancy, mostly $5.25; No. 1, $5.00; No. 2, $4.75.

MINNEAPOLIS and ST. PAUL.—No large arrivals since last report. Supplies very light. Comb: Practically no demand or trading, market dull. Sales to retailers, 24-section cases Colorado, No. 1 white sweet clover and alfalfa, $5.00. Extracted: Demand light, market firm. New stock, sales to retailers, confectioners and bakers in 5-gal. lots or more, per lb., Minnesota, white clover, 13c.

NEW YORK.—Extracted: Since last report 37 bbls. Porto Rico, 3 tanks, 6 bbls. San Domingo arrived. Florida receipts liberal. De-

mand light, market dull. Per lb., New York, white sweet clover mostly 11c; buckwheat mostly 8c. California, supplies light; white orange, 14-15c. Intermountain, white sweet clover, 11-12c. Florida, supplies liberal, white tupelo, 12-14c; light amber, 9-10½c; Porto Rico, market steady, light, 90-85c per gal. Comb: Eastern supplies light, 24-section cases fancy, $5.00; No. 1, $4.50; No. 2, $4.00. Beeswax: Since last report 203 sacks Chile, 51 bags Brazil, 2 bags Argentina, 10 bags, 3 seroons San Domingo, 11 bags Porto Rico, 78 bags Cuba, 22 cases Turkey, 9 cases Aden, 13 sacks Egypt, 35 cases Germany arrived. Supplies light. Demand light. West Indies, light, 30c; dark, 24-25c; Chile and Brazil, light, 31c; Africa, dark, 24-26c.

H. C. TAYLOR,
Chief of Bureau of Markets.

### Honey Producers' Monthly Report.

Early in June we sent to actual honey producers the following questions:

1. What is the average yield per colony to date this season in your locality? (a) Extracted honey? (b) Comb honey?
2. How does this compare with the average yield for your locality? Give answer in per cent.
3. What portion of the entire crop of surplus honey does this represent in your estimation? Give answer in per cent.
4. What prices are producers in your locality expecting to receive for the new crop at their station in large lots, carload or entire crop? (a) For extracted honey, per pound? (b) For comb honey, fancy and No. 1 per case?
5. What are prices now for new or old crop when sold to retailers in your locality. (a) Extracted honey in 5-lb. pails, or other retail packages, in terms of 5-lb. pails? (b) Comb honey, fancy and No. 1 per case?
6. What is the retail price to consumers in your locality? (a) Extracted honey in 5-lb. pails, or other retail packages in terms of 5-lb. pails. (b) Comb honey, fancy and No. 1 per section?
7. How is honey now moving on the market in your locality? Give answer in one word as slow, fair or rapid.

The answers, as returned by our honey and bee reporters, are as follows:

| State. | Reported by: | Av. per Col. Ex. | Av. per Col. Comb. | %Av. Yield. | %Hon. Crop. | In Carlots. Ex. | In Carlots. Comb. | In Small Lots. Ex. | In Small Lots. Comb. | Retail Prices. Ex. | Retail Prices. Comb. | Movement. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ala. | J. M. Cutts | 5 | | 50 | 50 | | | | | $1.00 | | Fair |
| Ala. | J. M. Dickman | 60 | | 100 | | | | $0.80 | | $1.00 | | Fair |
| Ark. | Jas. Johnson | 0 | 10 | 10 | 10 | | | 1.00 | | 1.00 | $.25 | Slow |
| Cal. | M. C. Richter | 0 | 0 | | | | | | | 1.50 | | Fair |
| Cal. | Geo. Larinan | 0 | 0 | | | .14 | | | | 1.00 | | Slow |
| Cal. | L. L. Andrews | 15 | 0 | 20 | | .13½ | | 1.00 | | 1.00 | | Fair |
| Cal. | M. A. Saylor | 20 | 12 | 50 | 25 | .09 | 3.60 | .60 | 3.60 | .80 | .25 | Fair |
| Col. | B. W. Hopper | 50 | 10 | 100 | 50 | 12½ | 4.50 | .75 | 5.00 | .85 | .25 | Fair |
| Col. | J. A. Green | 70 | 40 | 105 | 75 | .10 | | .75 | 4.80 | .95 | .25 | Fair |
| Conn. | Allan Latham | 30 | 20 | 100 | 30 | | | 1.00 | 6.30 | 1.25 | .35 | Fair |
| Fla. | C. C. Cook | 85 | | 170 | 50 | .08 | | .75 | | 1.00 | | Fair |
| Fla. | H. Hewitt | 25 | | 50 | 75 | .11 | | .75 | | 1.00 | | Fair |
| Fla. | F. E. Munson | 150 | | 150 | 90 | .11 | | .75 | | .90 | | Fair |
| Ga. | J. J. Wilder | 80 | 50 | 120 | 100 | .12½ | 4.75 | .80 | 5.00 | 1.00 | .27½ | Fair |
| Ida. | J. E. Miller | | | | 100 | | | | | | | |
| Ind. | J. Smith | 75 | 40 | 150 | 50 | | | 1.05 | | 1.25 | | Slow |
| Ind | T. C. Johnson | 60 | 50 | 100 | 75 | | | 1.00 | 5.75 | 1.25 | .30 | Slow |
| Ind. | E. S. Miller | 40 | 25 | 100 | | | | .80 | 5.75 | 1.00 | .30 | Slow |
| Ia. | W. S. Pangburn | | | 90 | 75 | .11 | | .75 | 4.80 | .92½ | | Slow |
| Ia. | E. G. Brown | 20 | 0 | 40 | 20 | .10 | | .75 | | 1.25 | | Fair |
| Ia. | F. Coverdale | 0 | 0 | 5 | | .12 | 5.00 | | 4.75 | .87½ | .27½ | |
| Kan. | J. A. Nininger | 30 | 24 | 100 | 25 | .14 | 6.00 | .75 | 5.00 | 1.00 | .25 | Fair |
| La. | E. C. Davis | 120 | | 125 | 75 | .12½ | 6.00 | .75 | 6.00 | 1.00 | .35 | Fair |
| Mo. | O. B. Griffin | | 10 | 30 | 50 | | | | | 1.25 | .35 | |
| Md. | S. G. Crocker | 50 | 30 | 110 | | | | 1.12½ | 4.75 | 1.50 | .32½ | Slow |
| Mich. | L. S. Griggs | 60 | 25 | 70 | 90 | .14 | 6.00 | | | | | |
| Mich. | F. Markham | 100 | | 100 | 75 | .10 | | .80 | | 1.25 | | Slow |
| Mich. | I. D. Bartlett | 5 | | 10 | 8½ | | | .75 | | 1.00 | | Fair |
| Mich. | E. D. Townsend | 30 | | 50 | 66⅔ | | | | | | | |
| Mich. | B. F. Kindig | 15 | | 20 | 40 | | | | | | | Slow |
| Mo | J. H. Fisbeck | 10 | | 100 | 20 | | | | | 1.25 | | Slow |
| Mo. | J. M. Romberger | 35 | 30 | 33 | 33 | .20 | 4.00 | 1.00 | 4.00 | 1.25 | .32½ | Slow |
| Neb. | J. H. Wagner | 10 | | | 15 | .12 | 4.5$ | 1.00 | 5.00 | 1.25 | .30 | Slow |
| Nev. | T. V. Damon | | | 20 | | .15 | 5.00 | | | | | Slow |
| N.J. | E. G. Carr | 10 | 5 | 8 | | .14 | 6.00 | | | 1.25 | .35 | Fair |
| N.Y. | G. B. Howe | 25 | 20 | 25 | 75 | | | | | 1.00 | | Fair |
| N.Y. | Adams & Myers | 75 | | 100 | 75 | .11 | 5.00 | .85 | 5.00 | 1.10 | .30 | Slow |
| N.Y. | F. W. Lesser | 25 | 15 | 50 | 50 | | | | | | | |
| N.Y. | R. B. Willson | 10 | 0 | 15 | 90 | | | | | | | Slow |
| N.C. | C. S. Baumgarner | | 30 | 150 | 50 | | | 1.00 | | 1.40 | .30 | Fair |
| Ohio. | J. F. Moore | 50 | | 67 | 67 | .10 | | .85 | | 1.10 | | Slow |
| Ohio. | F. Leininger | 25 | | 25 | 50 | .12 | | 1.50 | | | | Good |
| Okla. | Jos. Heueisen | 25 | | 70 | 50 | .20 | | | | 1.25 | .25 | Fair |
| Ore. | H. R. Scullen | 80 | | 110 | 100 | | | .90 | | 1.10 | .25 | |
| Pa. | D. C. Gilham | 8 | 5 | 25 | 60 | | | 1.05 | 7.20 | 1.40 | .40 | Slow |
| Pa. | H. Beaver | 20 | | 25 | 20 | | | | | | | |
| S.C. | A. S. Conradi | | 50 | 90 | 90 | | | | | 1.25 | .35 | Fair |
| Tex. | T. A. Bowden | 50 | | 100 | | | | .80 | | 1.10 | | Fair |
| Tex. | J. N. Mayes | 40 | 40 | 60 | 90 | .11 | 3.60 | .60 | 9.60 | .75 | | Rapid |
| Utah. | M. A. Gill | 30 | 20 | 100 | 25 | .09 | 4.00 | | | | | |
| Vt. | J. E. Crane | | | | | | | 1.25 | 4.75 | 1.25 | .30 | |
| Va. | T. C. Asher | 25 | 15 | 25 | 100 | | | 1.15 | 6.00 | 1.40 | .30 | Fair |
| Va. | L. N. Gravely | 30 | 15 | 25 | 30 | .15 | 6.00 | | | 1.25 | .35 | Slow |
| Wash. | W. L. Cox | 40 | 20 | 50 | 35 | | | .75 | 5.50 | 1.00 | .30 | Fair |
| Wash. | G. W. B. Saxton | | | | | .10 | | .65 | | .75 | | Slow |
| W.Va. | T. K. Massie | 10 | 12 | 40 | 50 | | | | | 1.00 | .30 | Fair |
| Wis. | E. Hassinger, Jr. | 20 | | 25 | 80 | | | | | | | |
| Wis. | H. F. Wilson | 25 | 10 | 50 | 30 | .13½ | | .17 | | 1.05 | | Slow |
| Wis. | N. E. France | | | 105 | | | | | | 1.00 | .25 | |

# Honey Containers

## *Friction-Top Pails*

| | 25 | 50 | 100 | 200 | 500 | 1000 |
|---|---|---|---|---|---|---|
| 5-lb. | $2.00 | $3.65 | $7.00 | $13.75 | $33.00 | $64.00 |
| 10-lb. | 3.00 | 5.25 | 10.25 | 20.00 | 48.00 | 94.00 |

Above pails are packed 50 to carton and will keep bright and clean until time of using. Above prices are f. o. b. cars Lansing or Baltimore as you prefer. Our 2½-lb. cans are packed 60 to carton, and are $2.80 per carton, 5 cartons for $13.25, 10 cartons for $25.00.

| 60-lb. cans, 2 cans to case, f. o. b. cars **Lansing.** | | 60-lb. cans, 2 cans to case, f. o. b. cars **Detroit** or **Chicago.** | |
|---|---|---|---|
| Per case | $1.25 | 50 cases for | $ 53.00 |
| 10 cases for | 12.00 | 100 cases for | 105.00 |
| 25 cases for | 29.00 | 200 cases for | 200.00 |

"A" grade tin paste for labels, per pint, 25c; quart, 45c; gallon, $1.50. Postage extra.

## *Glassware*

| | 1 case. | 10 cases. | 30 cases. |
|---|---|---|---|
| 6½-oz. tumbler, 48 to case | $1.35 | $13.00 | $37.00 |
| 16-oz. Round Jars, 24 to case | 1.30 | 12.50 | 36.00 |

## *Corrugated Paper Shipping Cases*

These cases provide an inexpensive package for handling comb honey. They are partitioned so that each section is in its own compartment. They fill railroad requirements but must be crated for shipment. Corrugated paper shipping cases holding—

| | 10 | 50 | 100 |
|---|---|---|---|
| 24 4¼x4¼x1⅞-inch sections | 2.25 | $11.00 | $21.50 |
| 24 4¼x4¼x1½-inch sections | 2.00 | 9.75 | 19.00 |
| 24 4 x5 x1⅜-inch sections | 1.95 | 9.50 | 18.00 |

We also furnish lithographed honey pails, cartons for comb honey, display and wood comb honey cases.

# M. H. HUNT & SON

*510 North Cedar Street.* *Lansing, Michigan*

# QUEENS

## KNOWN THE WORLD OVER AS THE BEST

**August is a good month to requeen your colonies. By requeening at this time you will be getting your colonies in excellent condition for the fall honey flow and successful wintering. To secure the largest yields and make the most profit from your bees you should requeen with Root "Quality" Queens. They are prolific, vigorous, and produce colonies of bees that are gentle, hardy, disease-resistant and excellent honey-gatherers.**

## QUEEN PRICES

| Quantity: | 1 to 9. | 10 to 24. | 25 to 49. | 50 to 99. | 100 up. |
|---|---|---|---|---|---|
| Untested | $1.50 ea. | $1.35 ea. | $1.25 ea. | $1.10 ea. | $1.00 ea. |
| Select Untested | 2.00 ea. | 1.80 ea. | 1.70 ea. | 1.55 ea. | 1.45 ea. |
| Tested | 2.50 ea. | 2.25 ea. | 2.10 ea. | 2.00 ea. | 1.85 ea. |
| Select Tested | 3.00 ea. | 2.70 ea. | 2.55 ea. | 2.40 ea. | 2.25 ea. |

### OUR GUARANTEE ON QUEENS

We guarantee safe arrival of queens sent in mailing cages. We agree to refund the money or replace the queen if the one first sent arrives dead, provided the beekeeper receiving the dead or unfit queen notifies us and returns her at once and in her own shipping cage, properly marked with name and address of sender. No delay in returning the queen can be permitted. This guarantee applies only on queens sent to customers in the United States and Canada.

## ROOT QUALITY BEES

The best beekeeping authorities agree with us in the opinion that the shipping of bees on combs containing honey and brood invites the spread of disease. We are now shipping bees only in combless packages, except in carload quantities under special conditions.

| | 1-9 pkgs. | 10-24 pkgs. | 25 up, pkgs. |
|---|---|---|---|
| 2-lb. pkg. of bees by express | $6.00 each. | $5.50 each. | $5.00 each. |

Add price of queens wanted to package price given above. Large quantity lots quoted on application. These prices are F. O. B. shipping point.

**BEES AND QUEENS ARE NOT SHIPPED C. O. D.**

# THE A. I. ROOT COMPANY

## WEST SIDE STATION, MEDINA, OHIO.

# Honey Packages

## GENUINE LITHOGRAPHED PAILS

Made in four beautiful colors. Furnished in the 2½-pound, 5-pound and 10-pound sizes. The only RUST-PROOF honey package on the market today. Your name PRINTED (not stenciled or stamped) on the cans without charge in lots of 100 or more. Sample 5-pound pail by parcel post for 20c in stamps. We use these pails exclusively in packing DADANT HONEY.

Our lithographed pails are enameled throughout, inside, outside, top and bottom. They are really **RUST-PROOF**. They will not corrode from contact with honey or water, and can be used again and again. No other pail on the market offers you this wonderful opportunity to advertise your honey continuously.

## PLAIN PAILS AND CANS

Our friction-top cans and pails are shipped in DUST-PROOF cartons. Cans will reach you CLEAN and in good shape to pack your honey. Our reshipping cases for 12 5-lb., 24 2½-lb., and 6 10-lb. are especially made and will carry honey safely. The 60-lb. cans are packed in strong cases with real hand holds. A cheap light case is the poorest advertisement for your honey.

## GLASS JARS

Famous Diamond I jars. None better. Clear glass—beautiful packages. Made by one of the largest glass factories in the world.

## COMB HONEY CARTONS

When each section of honey is packed in an individual carton, it is kept free from dust and dirt. Honey is always attractive and brings a higher price. New design. Sample, 5c.

## COMB HONEY SHIPPING CASES

All wood, glass front and corrugated. **Send for complete price list—tell us what you need. We can save you money.**

# Dadant & Sons, Hamilton, Ill.

# GLEANINGS IN BEE CULTURE

AUGUST, 1924


# EDITORIAL

## OUR CORNERSTONE

**REMEMBER** at all times that improved bee culture is our end and aim, and we trust no one will hesitate to give any facts from experience because they may tend to overthrow any particular person or "hobby." If any of our special plans don't work, or if anything we advertise has had its value overestimated, here in these pages is the place of all others to set the error right.—From A. I. Root's "introductory" in the first issue of Gleanings in Bee Culture, January 1, 1873.

THE annual field meet and conference of Wisconsin beekeepers, held under the joint auspices of the Wisconsin College of Agriculture and the Wisconsin State Beekeepers' Association, has come to be an institution. It is a beekeepers' camp meeting and congress combined, where some of the best beekeepers of the country foregather to exchange and compare the latest beekeeping ideas.

**The Big Wisconsin Meeting.**

This year the conference will be held August 12 to 14 in the city park of Fond du Lac, invited there by the local chamber of commerce. The program, received by Gleanings just before going to press, is as follows:

Tuesday Aug. 12.—9 a. m., registration; 10:45, address of welcome by R. D. Haentze, Mayor of Fond du Lac; 11:15, response for beekeepers; 11:30, address by president of Wisconsin State Beekeepers' Association, James Gwin; 11:45, announcements; 1:30 p. m. "Adaptations of Beekeeping Practices to Locality," Dr. E. F. Phillips; 2:30, "Relation of Climate to Honey Gathering," J. I. Hambleton; 3:30, "Relation of Climate to Spring Development," V. G. Milum; 4:00, swimming.

Wednesday, Aug. 13. (A. I. Root day).—9 a. m., A. I. Root (a tribute), H. Lathrop; 9:15, "A. I. Root's Contribution to Beekeeping," G. S. Demuth; 10:00, "Investigations Carried on by A. I. Root," Dr. E. F. Phillips; 10:45, "Some Fundamentals of Marketing," L. G. Foster; 11:45, "State Honey Week and the Wisconsin Products Exposition," Miss Fischer (food demonstration); 12 noon, picture of conference; 1:30 p. m., "Foundations of Proper Wintering," Dr. E. F. Phillips; 2:30 "Fall Management," J. I. Hambleton; 3:30 "Comb Honey versus Extracted Honey for the Future," G. S. Demuth; 4:30, swimming; 6:00, picnic; 7:00, Robin Hood pageant.

Thursday, Aug. 14.—9 a. m., "Brood Disease Control," Dr. E. F. Phillips; 10:00, "Minor Factors in American Foul Brood Dissemination," C. D. Adams; 10:30, "Farm Advertising," A. W. Hopkins; 11:15, "Fundamentals of Merchandising," H. H. Bakken; 1:30 p. m., "Swarming and Swarm Control" J. I. Hambleton; 2:30, "Some Marketing Plans," E. W. Atkins; 3:00, "The American Honey Producers' League" B. F. Kindig, president; 3:30, business session of Wisconsin State Beekeepers' Association.

IT is still too early to estimate what the honey crop for the United States will be. California, as has been reported previously, has had practically a failure. In some portions of the irrigated regions of the West reports indicate that a normal crop will be taken, while in other portions, particularly western Idaho and eastern Oregon, the honey crop will be short on account of lack of water for irrigation. The South generally speaking has had a heavy crop. Portions of the white-clover region are harvesting the heaviest crop that has been taken for years. In some localities in this region the average yield per colony is already well above 200 pounds per colony in well-managed apiaries. Reports thus far indicate that the heaviest yields this year have been in what may be considered the southern portion of the clover region particularly in portions of Ohio, Indiana and Iowa. In the clover region, however, the bees were below normal strength at the beginning of the fore anything like an accurate country-wide estimate can be made.

**What Will the Harvest Be?**

**The Meeting at Quebec.**

THOSE who expect to attend the Seventh International Congress of Beekeepers at Quebec, Sept. 1 to 4, should lose no time in reporting to this office in order that arrangements may be made to travel together, if possible. It would be very pleasant indeed if enough could travel together from Chicago, Buffalo or New York to make up a car that would be taken through to destination without change. Gleanings will be glad to make such arrangements if those who expect to go will write in time. The trip to Quebec in September should be a delightful one, making an ideal vacation for beekeepers who are able to get away at that time.

**Honey Quotations in Newspapers.**

EVERY beekeeper should see that his local papers quote honey prices along with other market quotations. Most newspapers publish market quotations on grain, livestock and vegetables in every issue. It should not be difficult to induce the editor to include honey in this list, thus helping to keep it before the public constantly. In most cases it will prove profitable for the beekeeper to take the editor of his local paper out to see his apiary and his honey crop. By talking bees and beekeeping to a representative of the local paper, his interest is aroused and he is anxious to have news items concerning honey production. If every newspaper published in the United States can be induced to carry market quotations on honey each issue, it should not be long until the American people really acquire the honey habit.

**Exhibits at Fairs.**

BEEKEEPERS should see that their industry is properly represented at every state and county fair throughout the United States this season. One of the best advertisements for honey is that of showing the process of extracting honey from the combs at fairs. Those who have secured a good crop of honey in well-filled extracting combs should by all means save enough of these to give a demonstration of extracting at their local fairs. Where such demonstrations have been given they have created great interest and resulted in a large amount of honey being sold. In some cases arrangements can be made to sell the honey on the ground as it comes from the extractor. While it would be a fine thing if a fund sufficient to advertise honey in a national way could be raised and honey could be advertised in a big way, beekeepers should not wait for some one to donate a few hundred thousand dollars for this purpose. There are something like 800,000 beekeepers in the United States, each of whom should appoint himself a special advertising agent and salesman of honey for his own locality. By giving demonstrations at state fairs and boosting honey in every possible way, 800,000 advertisers and salesmen should be able to do quite a little in placing honey before the American public.

**The Food Chamber Again.**

ONE of the greatest, perhaps the greatest, defect in beekeeping in this country is the almost universal tendency on the part of beekeepers to leave too little honey with the bees when harvesting the crop. Over and over the lesson is brought home in all parts of the country, by having colonies run short of stores at some critical time during the year, especially during the spring brood-rearing period. To correct this, feeding has been resorted to, but too often the feed is given too late or in insufficient quantities so that the colonies do not come up to the honey flow in normal strength. Furthermore, the management of out-apiaries which are often located some distance from the road makes spring feeding a difficult and sometimes almost impossible task. More and more American beekeepers are leaving larger amounts of honey with their bees, thus doing their fall feeding, winter feeding (unless it is necessary to feed sugar syrup to correct the quality of stores), and spring feeding in one operation simply by leaving a food chamber well filled with early-gathered honey sealed to the bottom-bars of the frames.

Some have tried the food-chamber plan with the food chamber half filled with honey with poor success. It should be remembered that the food chamber should be entirely filled and the honey sealed to the bottom-bars. If extracted honey is being produced, the last super given should be left with its unsealed honey so that the bees will use the unsealed honey from the super instead of the sealed honey in the food chamber. In the fall this food chamber with honey of the best quality for winter stores is then put in place directly over the brood-chamber, thus giving the bees winter stores of best quality instead of late-gathered honey of inferior quality.

**Shall We Requeen Annually?**

THE question is often asked whether it is more profitable to requeen all colonies annually, to requeen every two years, or to permit the bees to take care of supersedure in their own way. There are arguments in favor of each of these procedures. Some think that the loss resulting from the failure of queens at the critical time during spring brood-rearing is not great enough to balance the labor of rearing queens and requeening all colonies every year or every two years. In some northern localities, especially in comb-honey production, this is probably true, but it does not take into account the better condition of the colonies for winter when a young queen is introduced during the latter part of July or early in August. Beekeepers know that in the case of the swarm and the parent colony, the parent colony is, as a rule, in much better condition for winter than the swarm. The difference lies largely in the fact that the swarm has an old queen while the parent colony has a young queen.

Those who argue in favor of requeening every two years, point out that frequently two-year-old queens do better work than one-year-old queens. It often happens that queens reared one season are superior to those reared another season on account of the better condition under which they are reared. In such cases it may well happen that a two-year-old queen reared under more favorable conditions may prove to be better than a one-year-old queen. However, in these days of extracted-honey production when queens are worked harder than ever before, resulting in stronger colonies than formerly, annual requeening becomes almost necessary.

In localities where swarming is troublesome, much requeening is necessary some seasons in connection with swarm control, but one of the greatest needs of modern beekeeping is a better and less expensive method of requeening. The Editor believes that within a few years systems of requeening will be worked out by which this can be done with but little labor. It will, no doubt, be done without the trouble of finding and killing the old queen and without much expensive equipment for nuclei. Nuclei can be established in food chambers or in extracting supers, which are a part of the regular equipment and the young queen introduced by uniting the nucleus with the established colony by the newspaper plan, thus requeening and supplying the colony with ample stores for late summer, fall, winter and spring in one operation.

**Foundation of Next Year's Honey Crop.**

MANY do not fully realize that the foundation for next year's honey crop must be built now. Thousands of pages have been written on the subject of wintering and building up colonies in the spring; but the wintering problem has been discussed chiefly along the line of caring for the bees during the winter, while the fact is that the prosperity of the colonies during August and September is of greater importance so far as wintering is concerned than any amount of protection or care that can be given during the winter. Any defect, such as queenlessness, old worn-out queens, insufficient stores, insufficient workers or insufficient room for brood-rearing during the latter part of August and September can not help but result in such colonies being below par in the fall.

In requeening, the young queen should be introduced in time to begin laying not later than the middle of August in northern localities. Where requeening is attempted late there are often many cases of failure to accept the young queen, leaving the colony queenless for a long period just at the time when the bees that will compose the winter cluster should be reared. In such cases when a young queen is finally successfully introduced, it is too late for her to reach her full capacity in egg-laying in time to make a good winter colony. To introduce a young queen in the midst of the brood-rearing period when the workers which span the broodless period must be reared often causes a break in brood-rearing that seriously weakens the colony for winter regardless of its strength at this time. For this reason requeening should be done if possible during the latter part of July or early in August so that the young queen will be laying freely by the middle of the month.

Often colonies employed in producing extracted honey run short of stores during August or September unless the last super given is left with the bees or a food chamber is used. When this happens even a young queen will not keep up brood-rearing and such colonies are greatly injured for wintering.

By a little attention now in remedying any defects that would jeopardize the prosperity of the colonies, they will be more nearly uniform at the beginning of winter instead of only those which happen to have favorable conditions being in best condition for winter. There is no reason why every colony can not be in best condition for winter if proper attention is given during the next two months .

# HARVESTING AND EXTRACTING

*By Morley Pettit*

## Up-to-the Minute Equipment and Methods that Place Beekeeping on a Businesslike Basis

With yards rather widely distributed and farmers liable to stick in fields of buckwheat almost anywhere over the territory, our light honey is not safe on the hives after the first of August. In fact, it was still July when our best run of buckwheat came last year and in some yards combs of lower supers had to be sorted carefully to leave for dark honey more of the last gathering of clover than we liked. On that account I made a note at the time that we should start putting on bee-escapes about the twenty-fourth of July with a view to having all light honey off the hives by the first of August. It is now the twenty-fifth of June and a truck load of feed just this minute left the garage below where I write on its way to a yard where every colony is on the verge of starving. Clover is all in bloom, but the dull wet weather of this unusual spring still prevails. Fields which were meant for spring grain have early-sown buckwheat instead, so this will be a full test of patience and ingenuity to make anything of a clover crop cut short at both ends.

It would be ideal to have one super of empty combs for each colony when escapes go on, an ideal which seems likely to be easily attained this year. In a normal year the last super added is foundation. This acts as a safety valve to induce ripening, yet give space if needed. The food chamber is kept second to the top so the cover will be well sealed to the top super to keep out robbers while over escapes. If this foundation super has mostly unripe honey and empty space it is left above the excluder, then the food chamber, then the escape, and the honey, if any, above that. If all supers are fit to extract, a super of empty combs is placed first, then the food chamber, then the escape. We start putting on escapes and keep on doing nothing but put on escapes until the first have been on over one night, or if the weather is at all cool, over two nights. By that time the bees are well out unless brood or queens are up. Records and close observation while handling the supers keep those conditions down to a minimum.

### Each Yard Quickly Stripped of Surplus Honey.

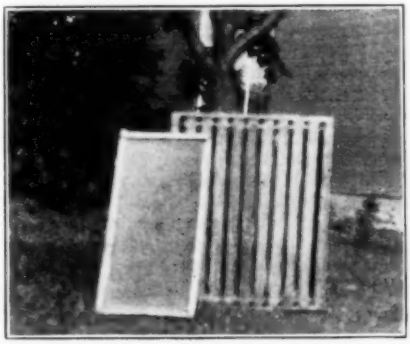
For drawing the honey home two trucks work to the best advantage. If great care has been exercised to prevent getting robbing started when the escapes go on, two active men with a truck apiece will strip a fifty-colony yard before the robbers have much chance. All escape boards come home with the trucks to go out in the Dodge to the next yards. As far as supplies hold out I like to get all supers of honey home and stored before going ahead with the extracting. As all of our storing and extracting is on a four-inch concrete floor laid on well-drained ground, my mind is quite at rest as to the support of any load we may be able to pile in. In the event of cool weather the store room can be kept warm with the boiler and the four-horse steam engine has lots of power to throw even thick honey from the combs.

Working out systems and plans of doing things has always been a sort of hobby with me, and the ideas of others are carefully considered and adopted or rejected as they seem to suit the general scheme. No doubt many perfectly good schemes have been rejected by this process; two that were afterwards adopted were given me by F. J. Miller, a past president of the Ontario Beekeepers' Association. These are the central extracting plant, and the fixed-frame super for convenience in trucking home the honey. It was several years before 1917 (the year we started it) that Miller was trucking his supers home, and the rest of us doubted the advantage. One by one we came around to the plan, and I have yet to learn of one who has tested it thoroughly who has gone back on it.

### Closed-end Frames for Extracting Supers.

The fixed frame or closed end-bar in this connection has mainly been used in the shallow depth. It looked good to me; but with my long knife there was no need for cutting off the combs to fit the short knife of commerce, so I got frames made on the closed-end-bar style and Langstroth depth, first a hundred supers as an experiment, then five hundred supers, and now five hundred more are waiting with wired frames for the honey flow, which is slow in coming. The end-bars are ⅜" thick and wide enough so that nine of them just fit the end of the super, leaving the same beespace at each side. The extra space on one side is filled by a block of wood nailed to the super, and on the other side by a super spring which holds the frames tightly together. There is no end beespace; the frames fit the super as a drawer fits a desk. No bees can get behind them to wax them up. This would not do for brood-frames which have to be manipulated; these frames are never handled with bees on them. The super goes on

as a unit and comes off over the escape the same way. The men who have to handle them think they are a wonderful convenience. At the capping melter they are removed from the super by a simple block device which shoves them all out at once; as they come from the extractors they go back into the supers, are clamped into place by the super springs and never come out again until they appear at the capping melter for the next extracting. We have these supers paint-



Extracting super fitted with nine closed-end frames. These frames fit the super snugly at the ends and are clamped together by means of super springs.

ed a different color to be easily distinguished.

### The Central Extracting Plant.

What appeals to me most in a central extracting plant is the opportunity it gives to have a first-class building with the best of equipment permanently installed, and to work regular hours under comfortable working conditions. After working for years in little houses at outyards where it was a fight with robbers, boiling heat and lack of water and other conveniences, we concluded it was a poor business that would not afford some comfort in its work. Now we can stick a yard in wherever there is a suitable place, and when the honey is ready to come off the escapes and trucks get it off and home where we can extract it in a businesslike way. In planning a building I gave some attention to general factory buildings and noticed first that outer walls are made mostly of glass, ceilings are high, and ground floors are well-surfaced concrete. I wanted to be able to drive right in with a load of honey and close the doors to keep robbers out. The building has running water and every ground floor has a drain for flushing out. The drains lead to a cesspool which takes care of any disease which might possibly be in the honey from the floor.

The building is lighted by electricity, but the extractors are run by steam power. A six-horse boiler fired by coke melts the cappings, heats the knives, runs the engine and extracts and pumps the honey to store tanks and warms the supers when necessary. In cold weather this accommodating boiler also heats the office and work rooms upstairs, to say nothing of the valuable service it renders in making feed and melting wax. It is an indispensable feature of a central plant, and incidentally I believe I hold the record for being the first to use a steam engine to run extractors. So completely have the gas engine and electric motor supplanted steam that one of my younger helpers could not understand how even a steam engine could run without gasoline somewhere in its anatomy. When steam is needed to uncap and melt cappings anyway it is eminently more satisfactory than a gas engine, and with no motor expert within thirty miles, I am not willing to run the risk of having my extracting hung up for

Morley Pettit's central extracting plant lighted by electricity, heated by steam and equipped with two eight-frame extractors, which are run by a steam engine.

days with a broken-down electric motor. Then our rates are such that we must pay for the power for twelve months to get the use of it for the one or two months we are extracting.

With steam I find that a pound of coke will uncap, melt the cappings, extract and pump about fifty pounds of honey. That makes the fuel expense pretty reasonable. The firing takes some time, but with the boiler right in the next room I am able to operate the two eight-frame extractors and keep up steam while extracting at the rate of over a thousand pounds per hour. Our best record is five thousand pounds in four hours with two men uncapping and a third man bringing supers of combs to the uncappers and putting the empties back in the supers. All three helpers were first-year men. It is their ambition this year to make it ten thousand pounds per day. I only hope against poor prospects we may have enough honey to more than get a good start at that rate.

For rapid work in uncapping it is nec-

essary to have combs even and nicely bulged, to have a good head of live steam in the knife, a good long straight knife well sharpened, an active operator with a strong wrist and bright light and plenty of fresh air for him to work by. With experience and care of the knife it is possible to do quite rapid work on honey warm from the hive with the standard unheated knife; but I can place my knife in the hands of an ambitious greenhorn and after one or two days' practice he will keep up with the fastest cold-knife operator under the best conditions of honey, and when the honey is inclined to be gummy the latter will not see anything of him after the first half hour. This may seem like boasting, but I believe it to be merely a simple statement of fact.

**Errors in Ordinary Uncapping Knives.**

There are three fundamental errors in the uncapping knife of commerce: the short blade, the crooked handle and the beveled back. Each one of these is calculated to set a man back several hours on his day's work, and with all three combined it is only by great skill and patience that he does a day's work at all. The only reason why all three have not been discarded years ago would seem to be that it gives more employment to beekeepers and their helpers, and adds one more item to the mysterious "experience" which is alleged to be necessary for all beekeeping operations. Experience is necessary, dear knows, all along the line of bee managment; but when it comes to the purely mechanical part of honey production we are out of the bee world and in the mechanical world, and its laws and devices should apply. There is no doubt that the short blade was the cause of the crooked handle, as the offset affords the only practical means of getting to the far edge of the comb without daubing the knuckles. The beveled edge enabled the operator to throw the cut cappings clear so they would fall away, and with a cold knife no doubt the narrow bevel slipped over the comb of honey easier than a flat blade. The introduction of the steam jacket which was supposed to give a continuously hot blade should have chaaged all the conditions, but the manufacturers did not rise to the occasion. I suppose this was largely due to the difficulty of getting the bulk of beekeepers to change their ways, and the fear that they would not be willing to pay for first-class implements. At any rate the progress of commercial honey production has been retarded in the past by a failure to apply the best of mechanical principles to the necessary machinery. In the case of the uncapping knife all that was done was to put a copper jacket on the knife we had used for years and ask us to heat it with steam from a dinky little copper can which would be a discredit to any self-respecting steam knife and should have been included in the things forbidden by the eighteenth amendment.

Shortly after the invention of the steam-jacketed knife, several efforts were made to invent an uncapping machine, but they all came to naught. About 1915 Chrysler of Chatham, Ont., suggested to me a straight flat blade which he was using on shallow frames. There was nothing new about the use of a straight flat knife. It was the first kind ever used; but it had been entirely discarded for the reason stated above. Chrysler revived the use of a straight knife, and deserves credit for it as for an invention. He found that an ordinary knife would reach across his shallow frames without crooking the handle so he used it and told me about it. As I was a Langstroth user, it occurred to me that what was sauce for the goose might also suit the gander and asked him if he could get me knives like his, only long enough to reach across my frames as his knife reached across his.

**The Pettit Uncapping Knife.**

It was a simple idea that anyone should think of, but apparently no one did. Perhaps a long knife is not an invention; but so far as I know I was the first to use and advocate a long knife. The fact of my knife being straight is of secondary consideration. To straighten the handle of the uncapping knife of commerce would make it useless for Langstroth combs; but to make it long first, and also straight, gives the double advantage of uncapping the whole comb at one stroke and allowing us to dispense with the tiresome side pull of a crooked handle. With long straight flat blades, slightly over an inch wide and steam-jacketed to give an edge on only one side and around the point, the change in our uncapping speed was revolutionary. With this knife, of course, a good head of steam is needed. There must be sufficient pressure so that a jet of almost dry steam flows from the point at all times, even when the blade is being driven through a big fat Langstroth comb cutting away a heavy slab of capping and trimming it flat and even with the frame. Everyone has his own idea, but for that purpose I like to have a six-horsepower boiler back of me, a good large opening in the end of the blade for the exhaust, and I'll guarantee there will not be much water drip into the capping melter from the knife. With this type of knife an active man in his first season has uncapped at the rate of about

seven hundred pounds per hour, keeping it up a good part of the day. With more experience there is no doubt he would be able to keep it up all day, or do a thousand pounds in an hour. The commercial beekeeper will readily see how such uncapping equipment simplifies the operation.

I have no knives for sale and my knives are not made commercially. There is a Canadian firm now making a knife to which they have attached the name of a former student of mine. They advertise that it has a "long, straight, double-edged blade." I am pleased to see that after I have used and advocated a long straight blade for seven years one manufacturer at least has begun to take notice, only they have not been brave enough to go the whole length and break away from the two other errors besides the "short" and "crooked" ones. These are the bevel and the double edge to which we may now pay our respects.

**The Upward Stroke in Uncapping.**

Three fundamental errors in the uncapping knife of commerce have been mentioned. There is a fourth which permits of a serious error in practice. It is the double edge allowing the upward stroke. I am well aware that the upward stroke is practiced by many who are perhaps better beekeepers and should disclaim all desire to dictate to them. Still the uncapping of combs is something to get done, with speed and without ceremony. It requires considerable muscular effort to force even a hot sharp blade through the length and breadth of each side of the large number of combs represented by a turn-out of more than five hundred pounds per hour. To resist this muscular effort the comb must be held rigidly.

Now if the pressure of the knife were upward the strain of the left hand holding the comb down would be as great as the strain of the right hand forcing the knife through it. The counter effect of the comb's actual weight would be overcome by the nervous tension required to stop the knife when it reaches the top. If on the other hand the knife is being forced downward, the solid wooden bar on which the end-bar of the comb rests, offers plenty of resistance without any effort on the part of the left hand, which merely supports the comb in the proper position. Incidentally, let's discard the traditional nail point which tends to break the end-bar where real force is used on the knife. Last season I purchased one of the new knives, "long, straight and double-edged." It is fine in workmanship and rather put to shame my old home-made ones in appearance. But "handsome is as handsome does," and after a fair trial our men all discarded it in favor of the old ones with flat blade and single edge, except one man who had previously been taught the upward stroke. In consequence he did not develop the speed that some of the others did.

Now we have the combs uncapped. They are still to be extracted, the honey stored and the cappings disposed of. In "American Bee Journal" for May, 1918, I described my long straight uncapping knife, and outlined a way in which extractor construction might be revolutionized to take advantage of the permanent installation made possible by the use of a central extracting plant. "One would not expect to find a power machine in any other industry so little removed from its hand prototype. The comb-basket reel might well have its upper and lower bearings fixed in a steel frame on a concrete base, rigid enough to resist all vibration after ordinary care is taken to balance uneven combs. The honey screen and reservoir is an entirely separate matter, and does not need to be a complete can at all; so long as it catches flying honey and conducts it along channels which will drain automatically and completely into the pump chamber."

Since the above appeared in print great improvements have been made in these machines. The Buckeye and the Markle extractors both reverse the combs while in motion.

**From the Extractor to the Tank.**

Of the two systems for storing the honey, gravity versus pump, I have no experience with the former, but am so well pleased with the latter that there is no desire to change. Both have their advantages; and if I found it necessary to build on a side hill doubtless the system would be gravity, but it is a great saving to have storing and extracting on the same floor and let the pump do the work. The only effect of the pump is to hasten granulation; or if run when not full to cause some foam. The same ¾" pump which I installed twelve years ago still pumps all our honey, and if we did not have it I would get another like it. Its capacity has not been determined by us, as 1250 pounds per hour has not troubled it in the least.

Adjoining the extracting room is the tank room with twelve tanks holding 2500 pounds each. An inch galvanized pipe conducts the honey from the pump to the ceiling and along over the tanks. There is an outlet over each tank which is left open when that tank is being filled. The rest of the system is left closed so that honey can be let into any tank by simply opening the valve over it. The system drains to one point where a valve

is opened at the end of the day to leave the pipes empty for the next day's start.

We have not strained honey for quite a number of years now, and at the rate we put it through the extractors it would be rather difficult, although it might be possible. The clarifying process consists in heating the honey quite thoroughly as it comes from the extractors and allowing it to stand in covered tanks for at least three or four days before drawing off into selling packages. This allows all foreign matter to rise so completely that very little indeed ever appears on the surface after the honey is tinned up. For heating, the stand pipe rising from the pump to the ceiling is steam-jacketed and kept hot so the honey cannot pass through it without being pretty thoroughly warmed. In addition the honey from the capping melter flows through a cloth strainer into the pump tank and mingles with the rest of the honey as it is being pumped up. By this double heating process the whole tankful is so thoroughly warmed that the tank is real warm to the touch when full. Just before draining each tank into selling packages the foam and a good quantity of thin honey, if any, is skimmed off the top so that all is clear and thick. These skimmings are heated thoroughly on the capping melter to melt the wax out of them and prepare them to go in with the next extracting.

Our uncapping is done over capping melters heated by steam. They are built on the same plan as the Peterson melter, but are differently constructed to adapt them for steam heat instead of the stove underneath. As this article is already too long, I shall not go into particulars of construction. Each 8-frame extractor has its own melter with a man operating the knife. They face each other and the melted wax and honey flow from both in a wash-boiler wax separator such as is sold with the Peterson. I do not know how much honey passes through this separator daily, but it must be a large proportion when one considers the heavy slabs of capping we cut from our bulged combs. We do not try to heat the wax sufficiently to produce commercial cakes, but only enough to cause the honey to separate from it. The coloring of the honey is so slight that it cannot be noticed when it is mixed evenly with the whole crop, and the slight change in flavor is if anything an improvement. At the end of the day the wax, refuse and honey remaining in the separator are dipped out into tin wax moulds and set away to harden. Next day they are dumped into an old capping can with strainer bottom for the honey to drain off the wax. The latter is stored away to be rendered properly at the end of the outdoor season and the former is stored to be clarified and sold for cooking purposes.

Georgetown, Ont.

# QUEEN-REARING IN ENGLAND

*By A. H. Bowen*

## The Cotswolds Region Especially Adapted to the Production of Queens on a Commercial Scale

The demand for queens in England has increased largely during the past few years, as the value of keeping good stock and of seasonal requeening is appreciated. Large numbers are imported each summer from the continent and a certain number are obtained from home breeders, because the average apiarist prefers to buy rather than to raise or save his queens, and devotes his attention to the production of honey.

It seems improbable that queen-rearing in England will ever reach the scale carried on elsewhere, owing to the restricting influence of our summer climate, which, during the honey flow, is cooler, more cloudy and windy than is desirable for good results. While it is fairly easy to raise a large number of queens, it is much more difficult to get them mated, and there is a more or less heavy loss in this respect.

However, a trying climate is not without its advantages, chief of which is the undoubted hardiness and vigor of homebred stock and the possibility of raising bees with more than the average capacity for honey production during our somewhat short season.

From this aspect the Cotswold Hills, lying on the eastern side of Gloucestershire, are fairly well adapted. Sainfoin, white clover, chalock and limes contribute the main portion of the honey flow from early June till August. In the valleys where few local bees are found and the air is still with a tempered atmosphere, queen-rearing can be conducted with a certain amount of success. Thus it is possible to breed Italians or Carniolans with every opportunity of keeping them pure if need be. A sheltered location is very essential, both from a commercial point of view and as an aid to rapid work. A windy position makes cross bees.

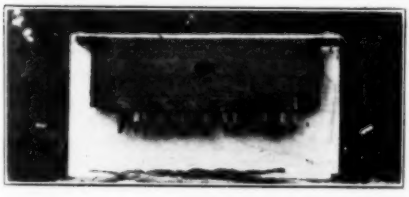
Several methods of rearing have been tested, and the present system is as simple as it is possible to make it.

Small wooden cell cups are used scarcely ½" wide by ¾" deep, and the cavity at one end is waxed, or may be fitted with a compressed wax cup. The cups themselves are fitted with spikes, by which means they are attached firmly to a cork strip at the lower edge of the corner. This cork strip is covered with perforated zinc to prevent the bees from eating it away.

It is not practicable to commence operations earlier than the latter part of May, because the spring is usually backward.

### The Cell-starting Colony.

When the cell cups have been primed and given a larva not over two days



A good batch of sealed queen-cells ready to be placed into the incubating cages.

old, two batches are then placed in the cell-starting colony. Black native bees are employed for starting the cups as they do better work than pure races. Cell-building colonies cannot be too strong and they are kept at full strength by the addition of combs of native brood at intervals. The larvae are then lavishly fed. The cell-starting colony is kept queenless through the entire season and batches are given every other day.

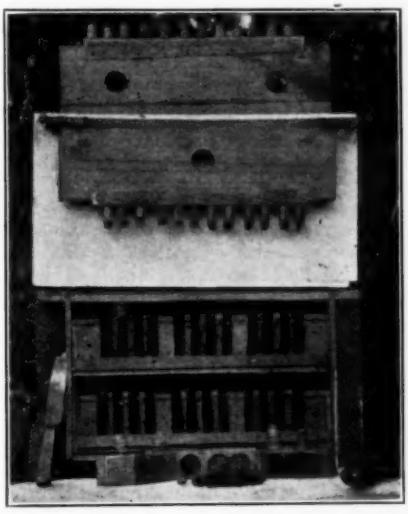
### The Cell-building Colonies.

On the second day after grafting, the cells are examined. Malformed or stunted cells are removed and the remainder are given strong double-story colonies to be completed. Queen-excluding zinc prevents the queen ascending. They remain thus for seven or eight days, when they are ready to be placed in incubating frames until needed for distribution. A little ball of queen candy is dropped into each compartment as food for the virgin queen when she emerges. During these various moves a cell-register card follows the batch about wherever it goes and gives at a glance all necessary information.

The influence of warm weather and of a good honey flow has so marked an effect upon the cell-raising colonies that the queen frequently emerges before the usual period. Bred during a good honey flow, such queens are often exceptionally bright in color. Likewise, wet and sunless periods may delay emergence considerably, and such queens are hardly to be compared with those produced under the best conditions.

### The Mating Nuclei.

The most useful style of mating hive is that holding three standard combs. A quilt next to the frames, composed of stout waterproof duck canvas with a central hole for feeding purposes, is tacked to the edge of each box to prevent the bees entering the next compartment. This forms an ideal covering and is one



A group of useful apparatus in queen-rearing showing cell-cup carriers and the incubating cage.

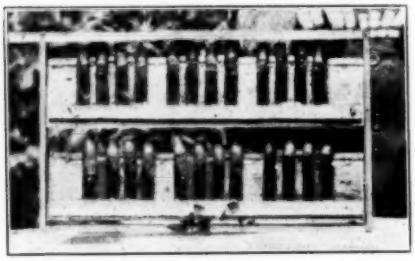
the bees cannot eat into shreds. Two or three boxes stand side by side under a common roof. They are painted white, brown and green as an aid to the queens when on the wing. The entrances face different ways, and the hives are dotted about the apiary among the bushes.

For quick removal of queens virgins are given in preference to ripe cells. In stocking the boxes, it is found better to form strong nuclei with maturing brood and the bees taken from queen-excluded upper stories. A few days after formation they are subdivided and a fresh virgin given to the removed portion.

Nuclei are examined every 10 days or oftener during a good honey flow when the combs are quickly filled with freshly gathered honey. Then the bees hang out, and relief is given by exchanging the filled combs for one or two empty ones. One large "mother" colony is allotted to each 15 nuclei to keep them supplied with food in times of dearth, or with brood should they become weak.

Drones are raised in very large numbers, but there is evidence to show that slow mating is more the result of indifferent weather conditions than to lack of drones.

During June and July a large margin of queens is kept to meet any unusual demand. After July there is a gradual reduction; and as the queens are disposed of, the nuclei are united and no fresh ones are made. There is a steady loss



Day-old virgin queens in the incubating cage, ready for distribution. This style of cage holds 24 cells.

of queens on the wing through birds, rough winds and drifting to hostile hives.

A small percentage prove to be drone breeders. These are a pest in any apiary. Difficult to detect, they prevent the nucleus accepting a fresh virgin or cell. Likewise are the flying virgins that gain an entrance into cell-raising colonies and cause much annoyance. Apparently the only way to avoid this is to establish mating stations some distance from the main apiary.

Each year a certain number of young queens are retained in full colonies in order to test the ability of their offspring to produce honey. As this is the result of the combination of several characters, careful records need to be kept to determine the value of such queens, since the honey-producing character is dependent on longevity (of workers), ability to conserve vitality in winter and prolificness in spring.

In former years the dark native bee was proved to be a better honey-gatherer than imported Italians, and the best bee for all-round use in this unstable climate. A good working strain results from crossing the native bee with Italian blood to brighten the color, and it goes to prove that the best honey-gatheres must be bred and selected here.

As good a domestic bee as ever there was in previous years, ought to be raised from the present medley of European and other races which exist. Under skilled care, it should be possible to select and fix a reliable and profitable type. Thus in our own climate there is a wide field open. The present-day need is for bees as thrifty as our forefathers had, and those that would excel in the production of section honey.

Coronation Road, Cheltenham, Eng.

[Queen-rearing is one of the most fascinating activities connected with beekeeping. The rearing of queens on a commercial scale has attracted some of the most brilliant men in beekeeping, and the rearing of queens for their own use has brought great pleasure to many engaged in honey production. In localities that are well dapted to honey production, queen-rearing has not proven to be as profitable as the production of honey, but this has not prevented some good men devoting their lives to the rearing of better queens. The work that has been done in the improvement of stock in bees has been done largely through the enthusiasm of the breeder and not as a business venture. Perhaps it is best this way, for men and women do their best work when stimulated by a profound interest in what they are doing instead of any possible profit alone. At any rate, the busy honey producer who does not rear at least a part of his own queens is missing a lot of fun.—Editor.]

Charlock in bloom in September in England. This plant yields both nectar and pollen until frost, thus aiding greatly in rearing queens late in the season.

# SPREAD OF AMERICAN FOUL BROOD

*By S. B. Fracker*

## Is this Disease Spread by Shipments of Honey from Infected Apiaries?

No matter how pressing marketing and other beekeeping problems become, the question of disease control is a subject which will not down. In many an orderly and quiet beekeepers' meeting, discussion breaks out and becomes prolonged as soon as foul brood is mentioned.

Recently the problem of long-distance spread of American foul brood has been receiving an unusual amount of attention. Many beekeepers believe and careful students of the subject have asserted that "the chief means of distribution" of this disease consists of honey sales and shipments, the containers being thrown out by the consumer where bees can get access to the honey.

**Infection in Population Centers.**

This view is based largely on the fact that, in general, the infection proves to be especially severe in the vicinity of population centers such as northeastern Illinois, southeastern New York State and similar sections. Coupled with this are occasional incidents such as one published in Gleanings a year or two ago in which a New Jersey apiary owned by Mr. E. G. Carr became infected from a leaky honey-container.

Of course there is no question but that the exposure of infected honey will, on occasion, result in the spread of disease. Bees will and do carry foul brood across the Mississippi bottoms over a mile in width, and the edge of a city dump is clearly a poor place for a beeyard. In our inspection work in Milwaukee, however, we have been astonished at some of the results. If honey-sales were the chief source of the spread of American foul brood, we do not understand how any apiary could exist inside a city of that size under the conditions and remain free from infection for many years. We have become convinced that, instead of being the "chief" source of distribution of the disease, commercial honey shipments bear a very small share of the responsibility.

A study of the records has recently been made to see what factor causes the greatest number of introductions of the disease into new apiaries and localities. It seems perfectly clear as a result of this work that movements of bees and used bee supplies are responsible for nine-tenths, perhaps 99 per cent of the trouble. If this is correct, controlling the movements of bees and equipment will be an important measure to prevent further distribution of American foul brood and is to be highly recommended even though it may be impracticable at present to prevent the shipments of honey from infected yards.

**Spread of Disease in Wisconsin.**

In the first place, the introduction of this disease into the state of Wisconsin and into many individual localities is definitely known to have been in specific importations of bees and equipment. It was brought in during 1870 with bees from Italy and its spread followed the death of the owner and the scattering of his apiary holdings. From this one apiary infected bees were introduced into Dane County near Madison, Grant County near Muscoda, Calumet, Washington, Dodge and Fond du Lac counties in the early nineties directly by the movement of beekeepers and the sale of bees and used bee supplies. So far as the names and dates have been obtainable these have been published. The record leaves no doubt but that in practice the movement of apiaries is responsible for the transportation of disease.

About the same time it was shown that in a particular area infected "out of 20 cases of American foul brood, 15 are apparently definitely known to have been transmitted by the movement of hives and comb, while of the other five little information is available." This investigation was made to determine the danger of infection from bee trees and similar sources, but it is equally interesting here. The only possible conclusion from these studies, which have been confirmed wherever introductions of American foul brood are recent enough to be determined, is that the movement of bees and bee supplies is at least an important method of American foul-brood dissemination.

With reference to the argument regarding centers of population the Wisconsin records are also significant. Nearly 20 per cent of the population of Wisconsin lives in the city of Milwaukee, and the county also includes a number of populous suburbs. As a center of congested population it is ideal for such a study, for many carloads of honey from different parts of the United States are imported by several bottling plants, and honey from all sources has been entering the city and it environments.

It is undoubtedly true that there has been a heavy American foul-brood infection in Milwaukee County, but a study of just where the infected apiaries are located reveals some surprising facts.

The number of beekeepers served by the central Milwaukee postoffice is forty-eight. This is the group located in the congested center of population where the greatest amount of honey is presumably consumed, and yet although honey from all sources including infected ones, has undoubtedly been shipped into this section every year for at least half a century, only seven apiaries (14 per cent) have been discovered with disease, and the only one of these which has secured its first infection since the campaign

In Wisconsin the spread of American foul brood has been traced chiefly through the movement of bees and equipment. The arrows indicate the movement of diseased colonies and equipment carrying American foul brood largely from a common center as traced out from the records in the office of the State Entomologist.

opened was within a city block of a yard which had been infected for a long time. These seven may all have moved infected bees from elsewhere, but they at least include and probably exceed the total damage from the importation of honey into the main part of the city of Milwaukee since the introduction of the American foul brood into the United States.

Immediately adjacent to the city to the southwest is a rural district which may conveniently be designated by its postoffice facilities which are through "Station D." This is the greenhouse district in which there is no congestion of population but there is an extensive movement of bees. In addition to the commercial beekeepers there are greenhouse proprietors, each of whom maintains a single colony during part of the season for purposes of pollination. On our list from Station D there are now 73 beekeepers, 18 of whose yards (24 per cent) have been found infected with American foul brood during the past four years. In this location, while it is in the neighborhood of a congested population center, there appears no reasonable cause for ascribing infection to the importation of honey, and it is a striking fact that the infection is much more severe than where the population is most dense. Oakwood and Hales Corners are other rural neighborhoods in the same county and in them 22 per cent and 33 per cent respectively of the apiaries were found infected on the first examination.

From these records we are forced to conclude that the amount of honey consumed by the public from year to year within bee flight of the apiary (as determined by the population of the district) is not correlated with the amount of foul-brood infection.

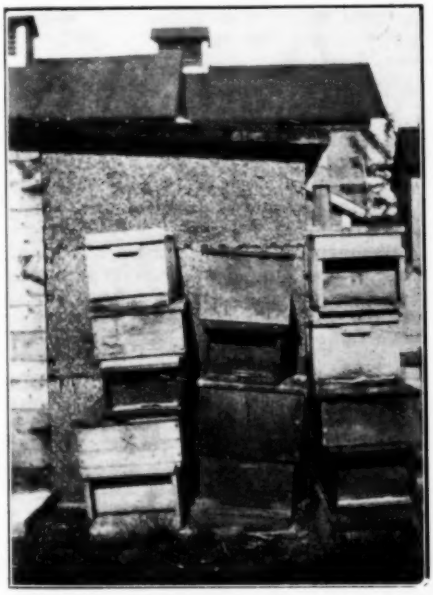
Outside of Milwaukee, Wisconsin contains 15 cities with a population of over 15,000. Complete surveys have been made of five of these and we are fairly familiar with the conditions in four or five others. Appleton and Oshkosh, within 40 miles of infection areas of long standing, and having many urban beekeepers, have each had only two or three infected apiaries within the city limits. These may or may not have been moved in. In Fond du Lac and Madison diseased bees were introduced many years ago, and American foul brood has been present ever since. Sheboygan remained free from the disease for over a generation after the development of infection in nearby counties, but an infested apiary was finally moved in, and that is still the only one reported with American foul brood. We have not inspected all the beeyards of Eau Claire and Superior, but there are many observant beekeepers in the vicinity and infections have never been discovered. A partial survey of LaCrosse also fails to indicate any trace of disease within the city.

### Some Cities Free from Disease.

While the city of Richland Center is not so large, having a population of only 3409, the intensive survey in Richland County is also interesting in this connection. The entire south tier of townships received an American foul-brood infection from the introduction of a diseased yard from Madison many years ago and the sale of the equipment in the yard after the bees were dead, to the beekeepers in the neighborhood. The northwest part of the county is the apparent victim of the spread of American foul brood from Vernon County, and an infection area in the northeast townships is contiguous to a larger one in Sauk County. Surrounded as it is and has been for years with infected districts containing many beekeepers, the infection running

back a quarter of a century, American foul brood has never been found either in the city of Richland Center itself or within six miles. This, in spite of the fact that infected honey must have been repeatedly sold there.

Another location with an interesting bee-disease history is Antigo, a small city of 8450. Langlade County, of which it is the county seat, seems to have remained free from disease until about 1915 when a beekeeper purchased several dozen hive bodies containing brood comb, from Wood County, an old infection center. American foul brood



The sale of old hives like these distributes more disease than commercial honey shipments.

soon showed up and spread to other yards.

So far as the evidence in Wisconsin is concerned we therefore feel justified in the conclusion that the only important means of dissemination of American foul brood consists of the movement of bees and used bee supplies. All of the numer ous cases of infection, the history of whose introduction is definitely known, fall within this class with the exception of only two individual cases where infected honey was responsible.

Thinking that Wisconsin's record on this matter might be due to the fact that, in our cold climate, honey distribution largely occurs after the bee-flight period, inquiries were sent to several southern states on this question. There was insufficient time to go into the subject fully but the replies are enlightening.

**Opinions of Inspectors in Other States.**

In Florida, as shown by published reports, infection is comparatively rare and sporadic. J. C. Goodwin writes, "It is apparent to me that honey, equipment, apiarist, etc., are all to blame for the spread of the organism. Most of our spread is due to equipment being moved from one yard to another."

In Mississippi some inspection has been carried on in every county, and American foul brood seems to be confined to the west-central and northwestern counties. It appears to have been introduced near Greenville from the northern states in a shipment of bees and equipment some years ago and is not connected with any population center. J. L. E. Lauderdale, apiary inspector of Mississippi, says: "There is no doubt that all our trouble has come from used bee supplies and the movement of diseased bees."

Alabama apiary inspection has been limited in scope, but Mr. J. M. Robinson, who has been in charge, states in conversation that American foul-brood dissemination, so far as known, is correlated with active commercial beekeeping and the moving of bees and equipment, rather than with honey shipments.

Dr. M. C. Tanquary, state entomologist of Texas, informs me that honey shipments are greatly feared and cites one or two cases in which they were apparently responsible for the introduction of American foul brood into clean territory. There are, however, "many more cases" in which infected bees have been introduced into new localities there and have caused the spread of disease.

In a word, as against literally hundreds of known cases of bee-disease distribution from the movement of bees and used bee supplies, the apiary inspectors of Wisconsin and four southern states have been able to discover only four or five cases of the introduction of American foul brood where the evidence points to honey shipments as the source of the trouble.

These conclusions mean that the situation is most hopeful, and that the entirely practicable and comparatively inexpensive policy of limiting the movement of bees and apiary equipment will eliminate all but a small fraction of the danger of introducing American foul brood into new areas; that its effectiveness does not depend upon the difficult and hazardous proposition of interfering with honey markets.

Madison, Wis.

# LEARNING AND UNLEARNING

*By Leslie Burr*

**Some Mistakes and Blunders the Telling of which Should Help Others to Avoid Similar Errors**

Along in the latter 90's, about '98 or '99, I visited a county fair at Kankakee, Illinois, and there met a beekeeper who had an exhibit of bees and honey at the fair. We discussed a great many things pertaining to bee culture, and one remark he made has always remained vividly in my memory. That remark was to the effect that "experience with bees counts far more than any other kind of knowledge concerning bees, and that our mistakes teach us better than our successes."

As to whether the theory of Mr. Whitney is sound or not, I will leave the readers to reason out to their own satisfaction. Personally I prefer to learn a thing without any costly blunders, and always to take as much advantage as possible of the experience of others; and to that end, I generally have a well-thumbed copy of the A B C and X Y Z of Bee Culture at hand. But even so I have made my full share of mistakes and blunders, and have also seen other people make their share. It is such mistakes that I am writing about, and perhaps, as a result, some of the readers may be able to profit.

**Smothering Bees When Moving.**

In the instalment of "A. I. Root's Story of His Own Life," published in the March number of Gleanings, he tells of the colony of bees that he purchased for $10.00, and then, after moving them home, killed them by leaving the hive with the entrance closed with a wire screen. Lack of proper care, as well as ventilation, has caused the death of many colonies of bees. A. I. Root was not the only person who gained his knowledge on that particular subject at the expense of the life of one or more colonies of bees.

The first colony of bees to be killed through ignorance of which I had personal knowledge, happened at home. I was about ten years old at the time. My father learned of a swarm of bees two miles or so from home. He drove over and hived them, closed up the hive and then placed it in the back of the buggy and drove home. The day was hot; and when he arrived home all the hive contained was a wet, sticky mass of dead bees.

While the death of that swarm taught me a lesson, it was not sufficient to prevent me from allowing a number of colonies to smother a few years later. About forty colonies were being moved by rail. The covers were removed and the tops and entrances of the hives screened. The bees were loaded in the car about 8:00 a. m., and arrived at their destination at 12:30 p. m. I rode in the car with the bees, but the hives being screened at the top and the entrance, I did not suppose any trouble could happen, so I paid but little attention to them. On arriving at the destination I got a lunch while the car was being spotted, then went to unload the bees. I found that ten of the strongest colonies were dead, and that the rest were very sick-looking.

From that day on I have never moved bees during hot weather without doing one of two things. Either I moved with the entrances open, or I had plenty of water at hand and made use of it. Five gallons of water and a tin cup would have saved the bees that day in the box car. A cup of water poured over a cluster of bees whenever they get warm and excited is the best medicine I know.

With plenty of water at hand bees can be moved during hot weather in almost any kind of a hive, and without danger of loss. I have taken full one-story hives of bees, poured half a bucket of water over the bees inside the hive, stuffed the entrance with grass, fastened the cover down and then put the hive in an automobile and taken them for an hour's ride, and always had them arrive in good condition. I did this several times in Hawaii, and during the warmest portion of some of the warmest days.

**An Exciting Experience.**

The most exciting experience I ever had moving bees also occurred in Hawaii. It was in the moving of a single nucleus at that. I had a friend about 18 miles from where I lived at Wailupu, whom I had promised a colony of bees. One Saturday evening I received a telephone call, asking me to come up for the week-end. I called up a garage for an automobile, and when it arrived I decided I would take the bees along with me. So I stuffed the entrance with grass, tied a heavy cord around the center of the hive, placed it in the rear of the automobile, and then got in the front seat with the driver, who was a Japanese.

Just as we were leaving town a Japanese boy ran out and the driver stopped. When the boy, who appeared to be about 12 or 14 years old, started to climb in the rear of the automobile, I told the drived he had better keep out, as the box had bees, and the bees might sting the youngster. The driver only laughed,

said that his boy wanted to ride with him, and that there would be no trouble. So I let him ride.

Before we had gone a mile the car hit a bad rut in the road and the hive shifted on the bottom-board. A few minutes later things were happening in the back seat. The driver stopped the car and the boy piled out and began to shed his clothes. Just as he got them all off and was busy shaking his shirt, another automobile came around a sharp turn in the road; and as the powerful headlights swept across the road, the occupants were treated to a free moving picture in the nude. Then came a lot of cars, one after another, and I laughed until my sides ached. Eventually the boy got into his clothes again, and we continued on our way—the boy riding outside of the car on the running-board, the boy and the bees being about equally excited. No further trouble was experienced, however, and both the boy and the bees were aboard when I reached my destination.

**Wholesale Swarming Out.**

Another experience I had with moving bees that did not work out as expected occurred the first time I moved bees that had been shaken for American foul brood. It was in Havana Province, Cuba. Claude Hill and I were cleaning up a yard of foul brood. We shook some seventy or eighty colonies on to starters, and then in the evening loaded them on an ox cart, and early the next morning moved them to a new location about five miles away.

On arriving at the new location we each set out a row of hives, and then proceeded to open them up. The entrance screens were held in place with two cleats, and as I was getting anxious about breakfast I merely loosened one end of the top cleats with a screwdriver, allowing the bees to pass out two or three at a time. Hill, however, either was not as hungry as I or else his habit of doing things properly was stronger than his desire for breakfast, for he proceeded to remove the screens entirely from his row of hives. The result was that my row of hives gave no trouble, but where the screens were removed the bees boiled out of the hives and soon about twenty-five or thirty colonies of bees were in the air.

The bees of the various colonies united and in the end formed three or four clusters. We took a water-bucket and proceeded to fill it full of bees from a cluster and then dump them in a hive. If we happened to get a queen the bees would perhaps stay; but if no queen was present they soon took to the air again. At last we got them all in hives; but there was a big loss in numbers, as no doubt in some of the buckets of bees there were several queens. As I recall it, when we got the bees back in the hives we had less than half the original number that absconded.

But to come back again to the subject of ventilation: The last blunder I made of that nature was in the building of an observatory hive, and it was not the first observatory hive I had built either. Under ordinary conditions the hive would have been all right. But the weather was excessively hot, for Hawaii, as it was at a fair there during 1921. I put too many bees in the hive for such weather. As a result, by afternoon of the first day I found the bees showing signs of distress. I promptly poured a pint or so of water over the bees, and then repeated the dose once each morning and afternoon for the two remaining days of the fair.

**Mistake in Choosing a Location.**

As a final item I will tell one on the Root Company. If I do not get any of the facts straight, I know the Editor will set me right. In previous articles I have mentioned the flush days of honey production in Cuba, that is, before the bee ranges were destroyed for the beekeepers, either by being stocked with cattle and hogs, or reclaimed by cultivation. Well, it was at the end of the bonanza period that some two hundred colonies of the finest kind of Italian bees, together with one of the best queen-breeders to be had, arrived at Havana. The A. I. Root Company proposed to produce winter queens in Cuba so as to have early queens for the northern honey producers.

The bees arrived about November 1, and three months or so later I visited the apiary. I had previously been informed by the man who selected the location that the first consideration was a location free from other bees, to insure pure mating, and that kind of a location was picked. The apiary was located on a broad savana carpeted with what Summerford used to call "poverty grass." I don't know of any better name, and the location as a bee pasture was living up to name.

Not only did I find no queen-rearing in progress, but I was informed by the queen-breeder that he was unable to requeen the colonies that in the natural course of events had become queenless. The trouble was, no drones, and the bees could not be induced to rear any. The reason the location was free from bees was because it would not support bees. All of which should have been apparent to the man who picked out the location.

Willits, Calif.

XUM

# SOME PACIFIC COAST BEEKEEPERS

*By Dora Stuart*

## An Advertising Expert Who is Also a Beekeeper Tells How to Solve the Marketing Problem

No one would ever think of an office building as a place where dreams come true, or of Ralph B. Calkins, alert, keen-eyed, sitting behind a polished desk, as an executive of such filmy projects as are the "stuff" of dreams. Much less would one suspect that he had ever "taken the veil," renounced the world and tailored garments, for overalls and woolen shirt—insignia of the Ancient Order of the Honey Bee.

Certainly the horny-handed beekeeper who called on him got no such impression. "Just another of them chair-warming beekeepers who never saw the inside of a beehive," was his mental comment, as he stated his errand.

Would Mr. Calkins address a young and struggling association in northern California? Mr. Calkins would, and gladly, even though the invitation did not conceal the fact that he was second choice. It appeared that his visitor in taking in the sights of the San Francisco Bay district had included in his itinerary the Alameda County Beekeepers' Association, the fame of which had spread as far as the wilds of Butte County. A meeting was in full blast, 150 persons being present. So that was the way they did things in the city! Well, he would just invite the president to come up to Butte and show the fellows. Mr. Hartman, the president, being unable to accept, referred the Butte representative to Mr. Calkins, secretary and treasurer of the Alameda Association and one of its organizers, also a member of the executive committee of the State Association, as the man they really needed.

Mr. Calkins came. Among the beekeepers who had responded to the S. O. S. call to hear him, was one who prided himself on never having learned anything at a bee meeting. But even he did not leave that meeting empty-headed, so to speak, for he had learned a new method of locating a queen quickly, simply by observing the position of the egg in the cell. If it stands on end, or nearly so, it has been recently laid and the queen is likely to be found in that immediate vicinity, perhaps on that very comb.

Others who had not yet learned all there is to know about bees, found food for thought in Mr. Calkins' discussion of foul brood, both American and European—just what it is, just how to treat it, and just where beekeepers will "head in" if they disregarded the symptoms. He made a special point of "motive" in beekeeping, distinguishing between the man who "keeps a few bees" and the "beekeeper," and declared that unless a man was or was striving to become a "beekeeper," he should not be permitted by the authorities to keep bees.

Inquiry revealed the fact that Mr. Calkins himself had only a few colonies of bees. "So he was after all just a jawbone beekeeper," thought the man who tendered the official invitation; or worse, among those not "permitted by the authorities to keep bees." Anyway, "what he said about foul brood was O. K., and it hadn't cost 'em anything to hear it"; no, not even traveling expenses, as Mr. Calkins had made the 250 miles in his own machine with his wife, en route to a camping vacation in the mountains still further north in northern California.

**An Informal Beekeepers' Meeting.**

There was some comfort in the reflection, and, after the visiting that usually follows a bee meeting, the man from Butte with a few neighbor beekeepers cheerfully accompanied Mr. Calkins to the auto camp in Bidwell Park, where Mrs. Calkins, who was waiting up for her husband, welcomed them to a room under the trees, with shadows for walls, oak leaves for draperies, the moon for a candle, and automobile running-boards for chairs.

Mr. Calkins was very much at home in that little patch of moonlight. He was silent for some time before his thoughts finally rose to the surface and found expression in words.

"There is one problem more hopeless even than American foul brood," he began; "it is the forty-year old question of how to sell more honey at a better price to millions more people."

That was the question that bobbed up serenely each year all over the country wherever beekeepers foregather, to be answered or evaded by each, and it gripped his little audience at once.

"I started in to make a living with bees, and quit because I couldn't," pursued Mr. Calkins.

So he had been a beekeeper after all, and had sense enough to quit. The man from Butte leaned forward with renewed interest.

"We did expect rather too much of the bees that first year, with only sixty colonies," interposed Mrs. Calkins. "We thought all we had to do was to market the honey."

"The bees might as well have attended to that item too, as far as results were concerned," returned Mr. Calkins.

Briefly to sum up their experience as related by the two of them, the bees did make a crop in spite of gratuitous corrections, hints and suggestions from their zealous owners, and according to Hoyle a day would arrive when the honey could be exchanged for a check. The great

Ralph B. Calkins, the beekeeper and advertising expert who has the vision of popularizing honey by nation-wide advertising in a big way as is being done with many other food products.

day did arrive, but not the check, nor the promise of one. A sample might be "submitted," in fact, many samples were submitted, and if the goods came up to grade the honey would be taken off their hands as an accommodation—"market overstocked, no demand, price too high," being some of the reasons given.

Those were the practical considerations that upset a five-thousand-colony chain-apiary dream, and started the "back to the city" movement that landed Mr. Calkins in his old occupation—"advertising"—where he had been discovered by the man from Butte in the office of the largest food-advertising agency in the world.

**What is Wrong with the Honey Market?**

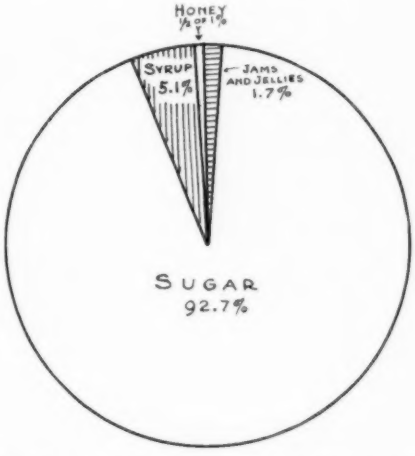
It was in that office that Mr. Calkins realized the apparent hopelessness of the honey-marketing problem, and patiently set to work to formulate a plan to save the situation. Honey was practically unknown. It had never been called to the attention of the "imbecile public," Henry Mencken's affectionate term for the American nation that must be told in flaming colors on billboards at every strategic turn on the public highways and on the covers of the thousands of magazines that infest our homes, not only what to eat and when and how to eat it, but why in health's name it must be eaten.

What place had honey in that gaudy array? Why were its great health and food values hidden under a bushel of ignorance and suspicion? In all their Sunday automobile rambles and in their magazines the word "Honey" was never seen blazoned forth in such style.

Clearly the trouble both with consumption and price of honey was poor demand. A study of food statistics revealed the fact that honey is consumed in the following proportions, as pictured in Mr. Calkins' chart No. 1.

| | |
|---|---|
| Sugar | 92.7% |
| Syrup | 5.1 |
| Jam | 1.7 |
| Honey | .5 |

At the recital of that table a dissenting voice came from Mr. Calkins' audience. "Everybody likes honey!"




Mr. Calkins' chart No. 1, showing the relative amounts of sugar, syrup, jam and honey consumed in this country. Honey represents only one-half of one per cent of the total of sweets consumed as shown by the little wedge in the upper portion of the circle.

**81% American Families Like Honey.**

"Yes," agreed Mr. Calkins, "'most everybody; in fact, more people out of a thousand like honey than will like 'most anything else. I found that out by asking a thousand representative families throughout the country through specially-prepared questionnaires. The names were chosen from the subscription list of one of the most popular of all the women's magazines. To be exact, 81 per cent of the families so questioned admit 'liking honey.'"

"Then why is honey at the end of the list?" argued the voice. "Because people don't want it."

"Don't want it!" echoed the audience. Was Mr. Calkins moonstruck or

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something? He looked rational and Mrs. Calkins showed no signs of alarm.

"Only 17 per cent of those who 'like' it 'want' it badly enough to buy it," explained Mr. Calkins. "Many people like a thing they don't really want, and many more want things they do not, or more often cannot, buy. Our job is to make 'em "want" honey.

It sounded like a simple proposition to make people want what they already like, and the group shifted to more comfortable positions on the running boards, preparatory to hearing a new exposition of the forty-year-old problem.

And it was a simple proposition to Mr. Calkins, who had studied the question under the microscope of his advertising experience, figuratively testing it with a match-stem and examining every "cell." He had read the history of this demand-disease in all its stages in his library of bee journals that reached back to the first "windmill" number of Gleanings, and has considered the practicability of every suggestion that had ever been made, including T. G. Newman's optimistic prophesies (made before this present generation of beekeepers was born) that "in one year more we will not be able to produce enough honey to satisfy the tremendous demand that is on the way."

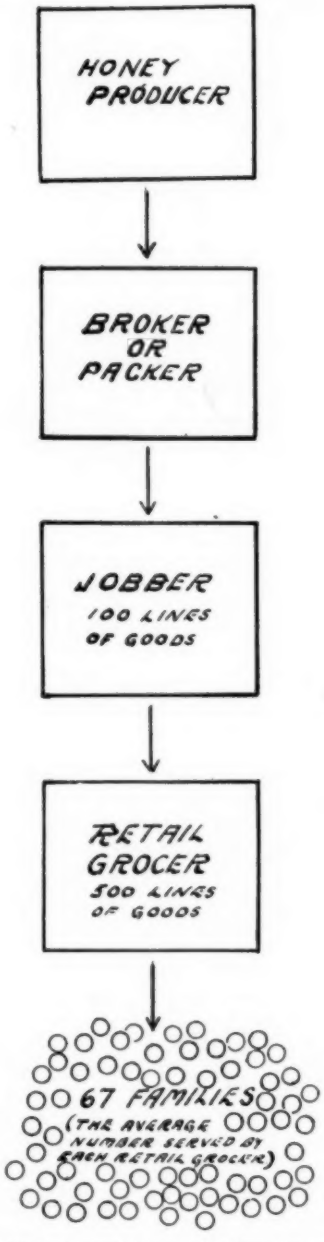
The demand is still on the way, at least it has never arrived. With the proportionate price of honey actually lower in 1924 than in 1890, and the purchasing power of beekeepers growing less and less, how is the individual beekeeper to increase the demand for honey in the 300,000 grocery stores of the country? That is what beekeepers everywhere want to know, and that is what the small group out in the moonlit part wanted to know.

### How Demand for Honey Can be Created.

"There is only one way," declared Mr. Calkins, "advertising."

"But we do advertise all the time," they insisted.

"No, you only think you advertise," replied Mr. Calkins. "Advertising don't mean merely little classified ads in the local newspapers or signs 'Honey for sale here' stuck up on the fence, or even a picture of a pretty girl with a few words praising honey underneath. No. To place honey before the public as Heinz, Beechnut, Postum or Del Monte would do it, on a nationwide scale, you must use their methods. You must use the trade journals of the home, the women's magazines. They reach 10 million good-food-loving families each month, 8 million (81 per cent) of whom already admit they 'like' honey, with a scientific program that will make them 'want' honey."




Mr. Caikins' chart No. 2 showing the route of honey from the producer to consumer. Note that the farther the honey goes from the producer, the more lines are carried and according less interest will be manifested. The retailer, having 500 lines, can have but little interest in honey. He is a distributor, not a salesman.

"Let 'em get it at the grocery stores where they buy the rest of their eats," interrupted a beekeeper who was trying in vain to find another soft spot of the running board.

Mrs. Calkins offered him her camp chair, and retired to the tent, and Mr. Calkins proceeded to explain how under our present clumsy system of distribution through jobber, wholesaler and lastly the retailer at the small end of the funnel, the honey stream backs up, and leaves a large surplus in the hands of the producer because there is no corresponding stream of advertising issuing from the beekeepers direct to the consumers to reinforce the efforts of retail salesmen whose energies are divided among thousands of other products that are kept constantly before the public eye through nationwide advertising. (See chart No. 2.)

"That would cost some money," came doubtfully from the group.

"A lot of it," agreed Mr. Calkins, calmly; "about two hundred thousand dollars a year.

A long whistle was his only reply.

"That's not so much, considered in some ways," went on Mr. Calkins' untroubled voice. "At ten cents a pound, the price you seem to have adopted as a basis, the honey crop of the country is worth probably 20 million dollars a year, and most of it is sold to some one else before it gets to the consumer. One cent out of every dollar would make up an advertising fund, and every penny spent for advertising would, according to expert advertising estimates based on actual results in other food lines, yield handsome profits through increased demand. If the price to beekeepers were raised 2c a pound, that would mean $4,000,000 profit to the beekeepers annually. Figure your own profit on your average crop. Would an increase of 2c a pound be worth one cent for every 8 or 10 pounds?"

But there are two schools of thought relating to large-scale undertakings represented even in small groups, the majority adhering to Mr. Menken's "American Credo," and a growing minority who believe with Mr. James and are "against bigness in all its forms, and with the invisible molecular forces that work from individual to individual, stealing in through the crannies of the world like so many soft rootlets, or like the capillary oozing of water, and yet rending the hardest monuments of man's pride if you give them time."

"Time!" that was the stumbling-block. "It'll take fifty years just to collect the fund," was the opinion of one of the group.

"We've got to advertise this year, not fifty years from now if the present generation of beekeepers is to be benefited by the increased demand for honey," urged Mr. Calkins, and his audience being of the present generation agreed with him.

After all, big advertising is the system under which we in America live and have our being, and after trying out honey in that fashion on the "imbecile public" would not molecular forces have a better show? At least nationwide advertising will not have harmed their chances. On the contrary, will it not have blazed the trail for the more effective "capillary oozing" of education along the lines of honey consumption?

According to Mr. Calkins, "big advertising is just telling millions of people all at once things they don't think about. One of those things is that honey is plentiful, that it is healthful, and that it is not expensive; that indeed it might in one full swoop lay several disturbing ghosts, such as the universal belief that extracted honey is mixed with something foreign when it doesn't happen to have the exact color of the "honey grandpa made"; "but," he concluded, "all this talk about $4,000,000 profit is just idle dreaming unless the $200,000 is raised."

"I'm for it!" suddenly announced the man from Butte. It would be worth the whole $200,000 if people could be convinced for all time that candied honey is not spoiled."

"How can we raise the money?" asked the doubter.

The audience showed signs of dispersing. Even the moon sagged a little wearily at this age-old problem, but Mr. Calkins' enthusiasm never flagged. It was his turn to ask questions.

"If there were not a simple, feasible, economical way to raise that fund, a method already approved by many of the largest factors in the industry throughout the country, do you think I would waste your time and mine talking about it?"

A few minutes later a belated beekeeper with engine trouble overheard Mrs. Calkins' voice saying,

"Isn't it lovely here? I wish we lived in the country and had bees again."

"We can, when we've made the country safe for beekeepers," promised Mr. Calkins; but being an expert both in beekeeping and advertising, he was far too wise to fix a definite date when that dream will come true.

Chico, Calif.

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# FROM THE FIELD OF EXPERIENCE

## HONEY BY PARCEL POST

### A Substantial and Attractive Package for Sending 5-Pound Pails by Mail

A large number of beekepers have been very successful in selling their honey in a retail way, and delivering it by parcel post. Sometimes the names of customers are secured by advertising in local papers, sometimes by the distribution of circulars at local county fairs, and sometimes through roadside selling. In fact, I suspect that most of the parcel-post honey business is started through the last means. At all events, after the name and address are once secured it is possible to furnish the consumer a second or a third package by parcel post. An occasional postal card stating the price for a five or ten pound pail, postpaid, reminds Mr. Consumer that he can get more of that same kind of honey.

Fig. 1.—R. Powell's parcel-post package of 5 pounds of honey which he sent from Riverside, Cal., to one of the editors of Gleanings That it came through in perfect condition is here shown. The purpose of shipping it so far was to test the package, and, incidentally, to remind the editor of something of the fine aroma and flaflvor of nature's blend of mountain-sage and orange-blossom honey.

Among those who have made a success of the parcel-post method of disposing of honey is Mr. R. Powell of Riverside, Calif., one of the leading and most influential beekeepers of Riverside County. He sent me by parcel post one of his five-pound packages of his nature's blend of mountain-sage and orange-blossom honey—a part of his crop in 1920. I hardly need tell you that this honey was some of the very finest that California produces; because, if there is any man who knows how to put up a good article, it is Mr. Powell. I have sampled his honey before.

Fig. 1 shows the package just as he sent it to me by mail. Fig. 2 shows the same package with the can removed. Both the crate and can came through in perfect condition except that one of the upright slats on the left in Fig. 2 was bent in slightly.

Fig. 2.—The same as shown in Fig. 1, except that the can has been removed. Some of the pieces were broken in prying off the sides. The top and bottom pieces are of ⅜ lumber cut in the form of an octagon. The upright pieces are only ¼ inch thick and 2 inches wide, to reduce weight. Of course, the length is regulated by the height of the can, which, in this particular case, was 6 1/12 inches. It will be noted that the top of the crate holds the friction cap in place so that there will be no crowding out and hence no leak at that point.

The postage was 60 cents, or 12 cents a pound for the honey. Of course, such a transportation charge with be prohibitive; but Mr. Powell's reason for sending the honey this great distance was to test out the strength of his package, and at the same time give me a reminder of the beautiful flavor and aroma of nature's blend of orange-blossom and mountain-sage honey. It is needless to say that he suceeeded in both points.

Ordinarily, sending honey by parcel post is practicable only within the first and second zones. In the first two zones the postage per pound is only 2 cents, and that two cents gives the honey producer a wide range of territory in which to sell.

This reminds me that every beekeeper

who sells honey by the roadside should give every automobile customer a neat little circular or card stating that more of the same kind of honey can be secured later in five and ten pound tins postpaid for so much; and don't let him get away without getting his name and permanent address. After he has consumed what he bought along the roadside he will, if the honey is good, want more of the same kind; and it is right here that the parcel-post package comes in very nicely. He may forget to order unless you send him a card, or what an advertiser man calls a "tickler." If this doesn't land him, send him a follow-up.

It might be well to state that parcel-post packages are already on the market and can be obtained of most dealers in beekeepers' supplies. These packages usually consist of a double corrugated-paper case that incloses a square tin can with a screw top. These have been used very successfully and give excellent results—in fact, they will stand more rough handling in the mail probably than the package here shown, but they will not advertise the honey along the route like the Powell case.

Any one can make up the Powell case after looking at Figs. 1 and 2. The top and bottom are made of ¾" lumber and cut in the form of an octagon. The uprights are made of lumber only ⅛" thick.

Medina, Ohio. E. R. Root.

## CONTROLLED MATING OF QUEENS

### Wonderful Possibilities that May be Realized in the Near Future

Wonderful advances have been made in bee culture in the past and still more wonderful advances will be made in the future. If one should ask what one feature is most to be desired in beekeeping that is within the bounds of possibility, I should emphatically say the control of mating of queen and drone. If some certain and simple method can be worked out, what can we accomplish? The question might better be put, "What could we not accomplish?"

Let us look at what has been accomplished in other lines. Our present splendid apples came from the hard sour wild crab. Our cabbage came from a spindling wild weed. Our beautiful hothouse roses came from the wild rose. Our hens that lay over three hundred eggs a year came from the wild jungle fowl that originally probably laid no more than one sitting of a dozen or fifteen eggs per year. And just look at what has been done with cattle. The wild cow of the pampas gives about a quart of milk a day, enough to nourish a bony, skinny calf, and the calf has to learn to eat grass young or it will starve. From such stock, by selection, has come our present-day cattle such as the Jerseys and Holsteins. A little 600-pound Jersey will produce three-fourths of a ton of butter in a year, and a Holstein will produce fifteen tons of milk per year.

Can we make as great advance with bees if we learn how to control mating? Why not? There is no argument against it. If we can, ton yields per colony will be common and possibly records of two or more tons will be made. Ridiculous! some will say, but even greater improvements have been made in other lines, so why not?

There is no use in denying the fact that little progress has been made in the honey-getting qualities of bees and in the prolificness of queens. Extravagant claims have been made about the wonderful performance of certain "strains" of bees, but the careful student of such matters usually considers these claims to be mostly "hot air." Unless you can control the mating, these so-called strains are but an average of the bees in the locality in which they are reared. The best we can do at present is to requeen all the bees within mating distance of our yards and then we strike a general average. Then when we think we have a superior strain, one mismating may put us back where we began.

Those who have made a study of the subject tell us that the same laws prevail in plants, animals, birds and insects. All of the great improvements that have been made have been by selecting the ones that have the desired points. By taking advantage of sports, improvements can be made. We cannot breed a blue bee, for bees do not sport in that direction, but the color varies between black and yellow, and by taking advantage of these variations we can control color to a certain extent. Could we make our queens larger and more prolific? We certainly could, for queens sport in that direction. In reading some of the old literature on bees we read of "giantess" queens. But as this characteristic could not be fixed, the giantess strain was lost. Very frequently we hear beekeepers relate that they found queens of enormous size and phenomenal egg-laying capacity. I have had a number of such, but as mating could not be controlled, their offspring soon struck the general average.

It seems to me that nature has fixed it on purpose so that we can make greater advances with the bees, if we can control mating, than can be made with plant, fowl or animal. Now suppose we

find an exceptional queen, please note that her drones have all of her blood, so if we could mate them to some of her queens we would get three-fourths of her blood, while in the case of a cow of great merit, her bull calf would be only a half-breed. By taking advantage of these large prolific queens, I believe in a very few years we could double the egg-laying capacity of our queens.

So much for the desirability of mating control, but how are we going to do it? I don't know. If I did, I would just go ahead and do it and beat every one else to it.

In 1901 the Beekeepers' Review had a write-up of a huge tent made of mosquito-netting built by J. S. Davitt of Georgia. This tent was 30 feet high and 30 feet in diameter. He reported complete success with this and said that a queen seldom reached the top of the tent before mating. He reported mating 100 queens in this tent and believed that 500 a day could be mated. Mr. Davitt said the main feature was to get the drones used to the tent. The hives were placed so that the workers could fly out to the fields, but a queen-excluder prevented the drones from doing so.

It is to be hoped that some experiment station or individual who is willing to spend some money in experimenting will take this matter up and work it out. It might be that a very small tent would do when the drones were educated to it. It might be that the location of this tent would be the secret of success as some have claimed that the mating takes place in the lee of a hill. If we knew how to do it, and a small tent would do, every beekeeper who was interested in better stock could have one. If it took a large expensive tent, the experiment stations could have them and furnish superior breeding stock to the beekeepers.

To the one who will work out this problem will come undying fame as it would be worth as much as all other discoveries in the bee line put together.

Vincennes, Ind. Jay Smith.

## TAKING BEES FROM A CHIMNEY

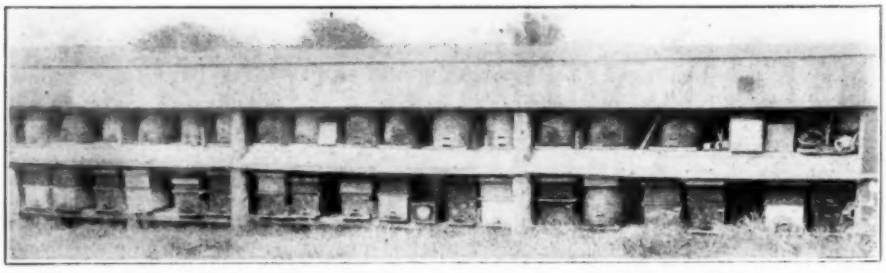
### How Newly Established Swarms Can be Removed from Difficult Places

Having failed several times to remove bees and stores from a chimney, I was asked to try another case, where a swarm had recently taken up its abode. I first tried the plan of placing a board over the top, thinking the bees would attach their combs to it, when I could lift it up in a day or two, with the entire cluster and slip a box beneath it. I believe this is a practical scheme, if done right away after the swarm enters. But in this instance I was too late, as the colony was already at work with several strips of comb attached to the brick a few inches down.

The owner told me I might remove all the bricks necessary as he intended to rebuild the chimney from the point where it emerged from the roof. So I began carefully to remove bricks from the sides yet free from combs, leaving the one side standing, until I made an opening below the combs. I saw that about half the bees, the queen no doubt included, were scattered throughout the depths of the flue as far down as I could see, where they crawled about in every direction. To drive them up to the cluster I dropped a burning rag down below them. Soon the bees began an upward course, and in about five or ten minutes practically all of them were on the combs.

Next I stuffed a sack into the hole to prevent any bees returning. The rest was easy. I cut the combs and dropped them with adhering bees into a box. The cluster remaining was scooped in with a piece of shingle. I saw the queen and took her by the wings, and into the box she went. I let the box down to the ground and descended, leaving fewer than a hundred bees in the air. I think I have the problem solved, and am a fair swarm of bees "to the good," and the other party is rid of a nuisance.

Davis, S. D. I. W. Cameron.



A box-hive and straw-skep apiary in Wisconsin. The owner who recently came from Europe brought along his ideas of hive construction.

# SIFTINGS

by J. E. Crane

The proper thing now for Dr. Wm. Brady to do is to apologize for his apology. Why not say, "I was mistaken in my statements in regard to the adulteration of honey. Therefore have I uttered that which I understand not. Things too wonderful for me which I knew not. I am sorry for any wrong I have done the beekeepers of the country"? Such a statement if published in the journals in which his false statements were made would do much to counteract the harm they are likely to do.

* * *

"Learning and Unlearning," the title of Leslie Burr's articles, would make a pretty good motto for most of us beekeepers, for such seems to be the experience of most progressive beekeepers. Almost every number of Gleanings in Bee Culture tells of something we had thought quite true to be only a fallacy. This month W. J. Nolan shows very conclusively that we have been overestimating the capacity of the queen to lay. We had learned or had some way come to believe that a good average queen could lay from 2000 to 3000 eggs a day, but from now on we must think of a good queen as laying only from 1000 to 2000 eggs a day, and not many reaching the latter number. Well! 1000 eggs a day are a good many, and a hen would have to lay three eggs a day for eleven months to do what the queen can do in one day. I shall still take off my hat to the queen.

* * *

We hardly need further proof of the value of an abundance of honey in the brood-chamber during the spring months than the reports in Gleanings from New England to California and from Manitoba southward. Every one reports the same, that colonies with a good supply of honey or that were fed are in excellent condition, while those short of stores run from weak to worthless. There has been so little honey coming in this spring these conditions are more pronounced than usual.

* * *

Sorry to learn Dr. Phillips is to leave the Department of Agriculture at Washington. He has done some good work. I think I had better say much good work for which the beekeepers of the country may well be very thankful. Much that he has done we may never hear of. He has made the Apicultural Division of the Bureau of Entomology something more than a name. Some fifty years ago I was in Washington and went to the Bureau of Entomology, hoping to learn something useful about bees. I found one old man who informed me that "millers" sometimes got into hives and ruined them, and that was about all. I believe the value of the work done along the line of foul brood alone would match the expense of this division of the bureau for many years.

* * *

Jay Smith's article, page 437, in the July number of Gleanings, is well worth reading two or three times and remembering. Yesterday I started to make some cell-protectors, and he tells us after experimenting with them that they are useless, and I am inclined to think he is right. Volumes he tells us could be written on the introduction of cells and yet not tell the whole story. But the most important thing in getting cells accepted is to feed colonies or nuclei well. I actually believe that man has feeding on the brain. He dreams of it at night and practices it by day, and then writes and tells us all about it. What goodly folk these beekeepers are to tell each other all the little kinks of their business and help each other when they can!

* * *

Mr. Smith found that he had to "unlearn" much before he "learned" how to succeed. He found cell protectors worse than useless by actual experience. Except for his care and thought we might have gone on as in the past, using cell protectors.

* * *

Well! much of our life consists of "learning and unlearning." How many times in early life have we thought if we had only this or that we should be supremely happy! but when we had secured it, our happiness had receded from us like the chest of gold at the end of the rainbow. How slowly we have learned that life does not consist in the abundance of the things we possess! But when our hearts have learned to beat in unison with the great loving Soul of the universe, we have found that peace, rest, joy and happiness we have so long craved.

* * *

Dallas Lore Sharp has a poem in Harper's for July on "The Birth of a Bee," well worth the attention of lovers of bees. The best of it is, he keeps nearer the truth than many writers of poetry do.

# FROM NORTH, EAST, WEST AND SOUTH

**In Southern California.**—June saw most of the bees that were on the orange locations moved back to the summer ranges where the beekeepers hope to get stores for winter and possibly a little surplus from the stronger colonies. Black and white sage furnished very little honey, in fact, we know of no pure sage honey produced. Some may have been made, but if so, our attention has not been called to it. The wild buckwheat has yielded a little almost constantly since the first bloom came out about May 27. The flow, at no time, has been heavy, but a little more than daily needs in time fills a hive. The buckwheat on the higher lands seems to be doing much the best and does not show the effects of the warm weather as much as that on the lower levels. And also where the land is loose and inclined to be sandy, the moisture is retained much better than where the soil is of clay and inclined to be hard.

Some beekeepers are moving to those localities where there are fields of alfalfa that are to be left for seed. There are also fields where the alfalfa has been plowed up and a crop of grain grown. There is quite a bit of volunteer alfalfa in these fields which is left to blossom, and makes good bee feed. This was yielding quite well up to a few days ago when the hot weather came on. A few extra hot days always has a tendency to stop the flow from the alfalfa and also from the buckwheat.

After waiting for weeks and making a special trip to consult with authorities in the states of Utah and Idaho, beekeepers succeeded in getting the quarantine restrictions modified so that bees could be shipped into those states. One man shipped two cars about June 24, and has more ready. While it is very late to ship up there and expect a honey crop, nevertheless the chances are good for getting the hives filled up and possibly a little surplus. It certainly proved to be a hardship on a number of men who had shipped to our orange districts with plans all laid for making a large number of nuclei and then expecting to ship north again only to find a large number of colonies ready to move and all roads blocked.

Markets on honey seem to be firm and we have had several inquiries from jobbers. A few beekeepers have sold, getting 12 cents a pound for white orange. With the extremely short crop, beekeepers seem to be in no hurry to sell, feeling that there is not much likelihood of the price going any lower.

Corona, Calif. L. L. Andrews.

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**In Northern California.**—It would be interesting to plot a curve representing the fat and lean honey seasons in our section. It would appear that there is a certain periodicity in this respect, that we have cycles of good and bad years alternating for periods of from 5 to 7 years. This year we will complete one of the most disastrous honey seasons on record. In fact, several years have gone by now without a bumper crop and it is to be hoped that we are nearing the end of a lean cycle. Sage has been a failure, the orange crop was not half the normal, and the prospects for a star-thistle flow are not at all promising. There ought to be a crop from alfalfa, however. Prices are stiffening and the demand is becoming brisker.

The importance of the honeybee in the pollination of pear orchards has been made clear in Bulletin No. 373, "Pear Pollination," recently issued by our State College of Agriculture. This publication states that the honeybee is necessary for the transfer of pollen in orchards of interfertile varieties and recommends about one colony of bees to the acre. It states further that "pear fruits resulting from cross-pollination do not appear to exhibit the same tendency to fall after the June drops as do those resulting from self-pollination." The relationship of the honeybee to the spread of pear blight has been an open question for many years in this state and it would be well to quote what the above bulletin has to say on this subject:

"Gossard and Walton * show that, under Ohio conditions, pear blossoms which have been pollinated for 72 hours are not likely to be inoculated with pear blight, and that susceptibility to the disease does not exist in blossoms that have been pollinated for 144 hours.

"These writers infer that the presence of numerous honeybees in an orchard at blossoming time will insure a good crop of fruit by bringing about the pollination of each flower as soon as it unfolds, thus rendering a majority of the bloom non-susceptible to blight before the disease is generally diffused over the orchard.

*Gossard, H. A., and Walton, R. C., Dissemination of Fire Blight, Ohio Agr. Exp. Sta. Bull. 357, 1922.

"The relation of bees to the spread of pear blight under California conditions is a question which requires additional investigation. The work in Ohio would seem to indicate that numerous bees in the orchard early in the season would be an advantage in restricting the 'blossom blight,' in addition to their necessity as pollinating agents."

Big Sur, Calif. M. C. Richter.

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**In Oregon.**— The writer has just returned from an extended trip through eastern Oregon. In general the prospects are looking favorable for a crop in the Umatilla district and central Oregon. Colonies, however, are not as strong as they should be in the Umatilla district. This is thought to be partly due to the shortage of pollen during late spring. However, shortage of stores was undoubtedly a big factor in many yards. Colonies which had ample stores and good queens are in excellent shape and bid fair to produce a normal crop.

The disease situation throughout the state seems to be very favorable at present.

Practically no honey is being held over in the large commercial producing sections so far as we were able to learn.

Interest in beekeeping on the part of fruit growers is growing. On a recent visit to The Dalles, one of the larger commercial producing centers for cherries, the writer was called into conference with representatives from the Fruit Growers' Association, the Chamber of Commerce, the County Agricultural Agent and others, to work out a program for developing the beekeeping industry in and about the cherry districts, primarily for cherry pollination. The movement is backed by the fruit-producing interests of the district.

The honey crop in many parts of the Willamette Valley has been the best in four years, coming largely from the new forage plant, Hungarian vetch. This truly bids fair to become the real honey plant of this section.

The State Beekeepers' Association is arranging for a two or three day beekeepers' camp, to be held near Clatskanie, in Columbia County, the latter part of August. Detailed information relative to this will be sent out later.

A business meeting of the State Beekeepers' Association is called on the morning of September 27, at 10 o'clock, in connection with the State Fair. Beekeepers of the state should plan to attend the fair on that date.

An extensive display of honey and a demonstration of the use of honey as a food will be put on at the Portland International Livestock show this coming November. H. A. Scullen.

Corvallis, Ore.

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**In Texas.**— The months of May and June have been very busy ones for the beekeepers of Texas. In southwest Texas the early honey flow from the guajilla and catsclaw began in early May and lasted until the horsemint came in and kept the honey flow going until the latter part of June. Reports of a hive body filled with foundation being drawn into comb filled with honey and sealed within a week come from many beekeepers. The Chambers of Commerce of five towns south and west of San Antonio have published statements to the effect that their towns have produced 100,000 pounds of early honey each. This list does not include some of the towns located in the parts of this territory producing the most honey. This record also does not include the horsemint honey, much of which is yet in the hives. The average for early honey seems to be around 65 pounds, although many yards went over 100 pounds. On one location 142 colonies produced 11,000 pounds. With the possibility of short honey flows from minor honey plants, the beekeepers are extracting closely to provide brood space for fall. In north and central Texas the bees have built up nicely on the flows from spring annuals and horsemint and now the cotton is in shape to give that section of the state a bumper crop.

Mesquite will have to do better or it will lose its place as a honey plant in the southwest. In 1921 it gave a fair yield; in 1922, nothing; in 1923, nothing, and while it has tried in 1924 it has done nothing yet. If the reports of the past are correct, mesquite is not doing what it formerly did in honey production. This may be due to the fact that where the mesquite has not been cut out, it is protected from brush fires and has grown up in very dense thickets and, because of crowding, cannot bloom. This is in accord with the common observation that isolated mesquites always bloom.

The State Apicultural Laboratory announces that the shipping dates for queens the remainder of this season will be July 17, August 7, August 28 and September 18. On account of the growing popularity of late summer requeening, the laboratory will have a larger supply of queens these dates than on the earlier ones. Those desiring information relative to queens should address Apicultural Laboratory, Route E, Box 368, San Antonio, Texas.

The first part of June Dr. F. L. Thomas, State Entomologist, made an extended

visit in southwest Texas. During this visit he made the acquaintance of many beekeepers. Prof. S. W. Bilsing has returned to college after a year's absence and both gentlemen will be in charge of the beekeepers' meeting at the short course this month.

San Antonio, Texas. H. B. Parks.

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**In Michigan.** Clover was ten to fifteen days late in many sections of southern Michigan, but is the most abundant and in the best condition that it has been for several years. As a rule, bees were about 80 per cent of normal strength at the beginning of the honey flow, and several thunder storms followed by cool weather since then have prevented the bees from taking advantage of the nectar flow. Scale hives in three districts have reported gains of as much as eight pounds on favorable days but dropped back to from 1½ to 4 on the average because of the unfavorable weather. Farmers are commencing to make hay, and, except in localities where clover seed is produced, the prospects for the honey crop are not so good from clover. Basswood is in fine condition, and with the right kind of weather would yield heavily. Sweet clover is very plentiful and may prove a blessing this season, especially since too many colonies will build up on the honey flow instead of storing surplus.

Sixteen demonstration apiaries have been established in southern Michigan under the supervision of J. C. Kremer and Edwin Ewell of this office. Mr. Ewell is also giving his attention to several demonstration apiaries in the Upper Peninsula. The outstanding feature in connection with this work so far has been the fact that many beekeepers visited were fussing with weak colonies just previous to the honey flow, frequently under the impression that their bees were going to gather surplus honey. In some yards it was necessary to unite three colonies to make one of normal strength for demonstration purposes.

The combs treated with Hutzelman's solution now contain healthy brood. It is a real pleasure to have the actual proof that the solution disinfects completely. It has been our experience in working with the causal organisms of American foul brood in the laboratory, that sometimes when the spores did not germinate culturally it was possible to produce disease by feeding back to healthy colonies. Therefore we feel that in the case of all disinfectants proposed for American foul brood the only worthwhile test of efficiency is the rearing of a healthy brood in disinfected broodcombs.

Several depots for the treating of combs with Hutzelman's solution have been established in various counties of the state. Any one desiring to take advantage of this service should write to Mr. B. F. Kindig, Director Apiary Inspection, Department of Agriculture, Lansing, Michigan.

The clover land of the Upper Peninsula has attracted one outfit of 500 colonies from Mississippi and another outfit of 350 colonies from southern Michigan this season. It is planned to make a tour of inspection to these apiaries at the close of the summer meeting of the Michigan Beekeepers' Association to be held at Traverse City, August 6 and 7.

Very little honey is changing hands. However, very little is being offered for sale.

East Lansing, Mich. R. H. Kelty.

* * *

**In Montana.** At the time of writing, the honey crop for Montana does not look as favorable as it did earlier in the season. The western part of the state has experienced considerable dry weather. Along with this there seems to have been a lack of irrigation water so that crops in general have suffered severely. Alfalfa and clover in a good number of localities have almost burned up from the excessive dry weather and heat.

Beekeepers from all sections of the state are reporting considerable difficulty from swarming. This can probably be explained by the fact that Montana has experienced a late spring. Bees in general were put into winter quarters with plenty of stores, and as a result the bees went about their brood-rearing in a normal manner. This has made colonies exceedingly strong. In fact, colonies had reached their peak about two weeks earlier than during a normal year. As soon as the first honey flow started the bees were in condition for swarming and the beekeepers found themselves working overtime trying to keep up with the bees.

Montana beekeepers are beginning to feel that they want to continue the work at the State College which was started two years ago. Plans are under way to hold the annual meeting some time in November so that the various committees will have sufficient time to revise our state law and to prepare a new bill to be acted upon by the legislature this coming winter. Arrangements are also being made to secure an appropriation to carry on disease-control work. If it is possible to secure this appropriation an extensive campaign is going to be put on to help beekeepers clean up their diseased colonies and equipment.

Beekeepers from other states are still attempting to move bees into Montana, but the new regulation put into effect by Commissioner Davis makes it impossible to ship bees into Montana unless in combless packages.

Bozeman, Mont. O. A. Sippel.

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**In Indiana.**—Cold and rainy weather throughout the spring months has necessitated much feeding of bees, and a considerable number of colonies not fed have succumbed to starvation. Excessive rainfall in June has prevented the gathering of much nectar from clover, although there never was a greater amount in bloom.

Swarming has been prevalent. Colonies that have been fed to prevent starvation have swarmed before the flow began, and after the beginning of the clover flow many colonies hived on foundation have, within a week, started queen-cells preparatory to swarming. Those having a brood-chamber of two ten-frame hive bodies seem to be the worst offenders, possibly on account of being stronger.

There seems to be very little foul brood left in this locality, due to the vigilance of Indiana inspectors. Small beekeepers, generally, have cleaned up infected colonies and commercial producers now have the disease under control although the spread of infection by means of extracting combs presents a difficult problem. The Hutzelman solution is being tried out and it is to be hoped that it will prove a success.

Both comb and extracted honey is practically all sold out for the first time in several years. Honey in this locality is not shipped to wholesale markets but sold locally to consumers and to the retail trade.

With favorable weather conditions the prospects are that the bees will yet gather a considerable amount of nectar from white clover and sweet clover, and the prospects are good for a fall flow.

Valparaiso, Ind. E. S. Miller.

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**In Wisconsin.**—This is written on July 3, and no surplus honey on the hives as yet. The season is over two weeks late as compared to the average season. The first clover blossoms to be seen this year were on June 17, while the average date would be June 1. It would have been possible for the bees to store honey for the past ten days if the weather had been favorable. For the past five days each day was spoiled for honey gathering with a shower of rain in the middle of the day or nearly so. In our immediate vicinity we have only a 50 per cent stand of clover. All last year's new seeding was killed by dry weather last summer and fall. For the same reason last fall it seems bees did not breed much, and colonies went into winter quarters short on young bees. This with the late backward spring caused much spring dwindling and a heavy winter loss. This was true of all the beekeepers in this county regardless of whether they were wintered in cellar or outdoors in packing cases. They are unanimous in that only 50 per cent of the usual number of colonies in this vicinity are in a normal condition to store a crop of honey under condition that the weather is favorable for a 50 per cent stand of clover that will be cut for hay in a short time now. Very little if any will be left for seed. Very few if any comb-honey supers will be used this season.

Greenville, Wis. E. Hassinger, Jr.

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**In New York**—It looks as though western New York may again be blest this year with a good crop of honey. Clover is in excellent condition and yielding freely. Bees where they were supplied with plenty of stores (both honey and pollen) are in good condition to take advantage of the flow. If the past spring is to be a criterion we must pay more attention to having pollen stored for spring use. The best and easiest way to accomplish this with 10-frame equipment is to use two brood bodies the year around.

This matter of lack of pollen was vividly brought to us a few days ago while calling on a friend beekeeper who made considerable late increase last season and wintered it on sealed frames of clover. These wintered strong, but dwindled away to a mere handful at the beginning of clover.

Until recently we had hoped we had passed the season of 1924 without much damage from spray and dust poisoning. Fruit-growers were very careful in making the applications and in one instance the Farm Bureau recalled a service that had been sent out to spray Wealthy apples that were in bloom.

From June 23 to July 2 spray services were sent out on all and every variety of fruit for midsummer application of poison. Farmers being behind with their work, and the dusting method being two or three times faster than the liquid spraying, more dusting was done than ever before. Clover began yielding about June 25. July 3 and 4 we found three of our yards where the ground was literally covered with dead and dying bees and the brood appeared as though it was affected with both American and Euro-

pean foul brood, inasmuch as brood was dead in all stages of development.

Bees are only working on clover now and it seems clear that the trouble comes from dust drifting over the clover fields.

Ransomville, N. Y. H. M. Myers.

* * *

**In Ontario.**—In my July notes I stated that prospects at the date of writing were not more than 60 per cent of what they were a month earlier owing to continued bad weather and the bees getting short of stores. Unseasonably cool weather continued all through June and at this date (July 9) I would say that for our immediate district the prospects are not over 40 per cent, as compared with two months ago, in so far as white honey is concerned. I have had reports from eastern, western and central Ontario; and in the main, conditions seem to be very similar with exceptions in a few cases where the bees seemed to hold up better than in other places.

It will not be more than three weeks until buckwheat comes on; and after August 1 honey in our locality is apt to be more or less flavored and colored with buckwheat. Prospects here at the home district on the "ridge" are still good for sweet clover, which is about two weeks later than usual and just showing a few blossoms. Alsike and white clover are abundant and we have had lots of rain, yet little nectar is being secreted. For the past decade, here in York County, alsike has been a very indifferent yielder; whether because lime is exhausted or not I cannot say, but the growth of alsike is as luxurious as ever. At our apiaries in Haldimand and Wentworth Counties, latest reports indicate that there is a fair honey flow although bees are not in as good condition as usual to take advantage of it.

This year in the home section I fed one apiary 250 pounds of syrup on June 28, which constitutes a record in that line for us, and we hope it is an experience not likely to be duplicated in the near future. Although no colonies actually starved during the long period of cool weather with no nectar coming in, and despite the fact that all had more or less unsealed food in the hives at all times given by feeding, yet the bees went back badly; and now in early July, colonies as a rule are not as strong as they were six weeks ago, as our bees had wintered well. Of course, this militates against the possibility of a big crop even if the honey flow is heavy during the next two weeks, as we do not have the usual number of bees in the hives to gather the nectar. Feeding colonies during May and June when really necessary, is better than letting them starve, but for some reason (at least it has been our experience) no matter how well the feeding is done in the spring, colonies having old stores to draw on in every case take the lead over those running short of honey and requiring to be fed.

As mentioned in last Gleanings, old stocks of honey are pretty well cleaned up, although I find some small lots still in the hands of dealers. That comb honey referred to in the June issue has not yet been cleaned up, much to my surprise. While in Toronto last week I again met the wholesaler referred to at lunch, and he stated that, although he had cut prices to the bone, yet it had not moved out and he invited me to come down and buy some good comb honey at a bargain. Not having any avenue for the product, I did not avail myself of his offer, but I know by what he said that it could have been bought at a sacrifice. This is not repeated to discourage comb-honey production, but I do think that comb-honey peak prices have been reached, and probably passed already. Would-be producers of comb honey should not start in with expectations of too high returns, only to be disappointed later.

Major Shallard of Australia says that queens of good breeding will not go up into the supers so no excluders are necessary. Truly there must be a lot after all in that much used and often abused term "location." Here in Ontario if a super is given on any hive as small as a ten-frame Langstroth, and we find that the queen is not entering the first story given them when the honey flow comes on, we at once suspect that the queen, instead of being a good one, is failing or never was good. On examining the brood-nest, this is invariably found to be true, and supersedure or some other trouble is always in evidence. During the past week we have been putting on excluders; and although in many cases colonies were not up to their usual strength, the queens had gone above and in a few colonies we actually found two combs at the outside of the brood-nest with practically no honey or brood in them. Without excluders, I certainly do not know how we would produce extracted honey in this section.

We have often had a queen go through an excluder when the colony had two or more supers fairly well filled with honey. Just where the great bulk of that honey goes in a week or ten days, provided that the queen is above and is not discovered before that, has always been a mystery to me. Certain it is, a good prolific queen will soon play havoc with a fine super of honey under those conditions.

Markham, Ont. J. L. Byer.

# HEADS OF GRAIN FROM DIFFERENT FIELDS

**Finding the Queen.** To find the queen I place the excluder on the super, then place the brood-chamber on the excluder. I use plenty of smoke which drives most of the bees down, then take out the two outside combs which prevent clustering on the sides. I use enough smoke when working to drive most of the bees from the combs. They readily pass down through the excluder and the queen can easily be found, usually on a comb and seldom in a bunch of drones. Wm. H. Miller.

Tivoli, N. Y.

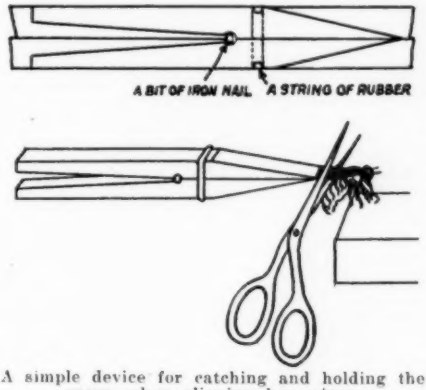
**Use of Honey in Bread.** In reply to Mr. Crane's question on page 449, honey is superior to sugar in the making of bread and baker's cake because of its hygroscopic nature; that is to say, because of its property of absorbing water, and retaining the moisture absorbed. Bread made from honey will not dry out, and therefore is salable over a much longer period after the baking. Camp cooks who must feed large gangs one day and then wait a few days for the gang to return, pay good money for honey bread. Where the flavor of honey is noticeable some tastes prefer it, and small amounts of wax are said to give the loaf a gloss.

Waban, Mass. A. M. Southwick.

**Beekeeping for Ministers.** While I was pastor at Edina, Mo., in May, 1919, a man gave me one colony of bees. They swarmed in June, and August 1 I started another colony from them with a young queen. So I had three colonies for the winter and sold $18.00 worth of honey. The next spring I divided the three colonies, making six out of them, and one of them swarmed that fall. I moved and sold my bees at from $4.00 to $6.00 a colony; and after deducting all expenses, the honey and bees made me a clear profit of $101 in less than 18 months. All, except the queen I bought, came from the one colony that was given me. Being a minister I have to move too often to get many bees, but have seven colonies now that I picked up last summer. I want to get them in shape to help pay our son's way through college after this year. Bees are good for preachers.

Hopkins, Mo. Rev. E. C. Wright.

**Device for Catching Queen.** The accompanying illustrations show my method of catching and clipping queens. It is the best way I know for clipping, and I have never harmed a queen. When cutting off the




A simple device for catching and holding the queen when clipping her wings.

wings let the queen grasp any object or the comb with her feet so there will be no danger of also cutting off any of her legs. Francis Rodriguez.

S. Ramois, Costa Rica, C. A.

**Disarming Cross Bees.** Referring to Mr. G. Gilbert's article, "Disposing of Cross Bees," in the July number of Gleanings, while I approve of his idea of disposing of the angry and annoying bees, I consider the paddle a rather slow and antique weapon of defense when the bees are real angry and attack in force.

When working in the apiary I always arrange to have some old newspapers handy having previously placed them at convenient places under some of the hives or outer hive covers where they will always be dry when needed, then when the bees get too troublesome while I am working with them, I take a few minutes to unfold a few sheets of the newspaper, and after rolling and twisting them into a long loose roll I ignite one end of the roll and hold this flaming torch up at about the height of my head. The angry bees seem to have the same attraction for the flames as they have for the fast-moving paddle and fly right into them with the result that they are soon on the ground with their wings singed off and helpless for any further warfare, and their only recourse is to

crawl back into their hives where they may be useful as nurse bees for the remainder of their days, or they may be honored as crippled veterans. Who knows?

E. G. Kyte.

Emporium, Pa.

**Steam-Heated Capping Melter.** I am sending a picture of the Peterson capping melter as we arranged it to work with steam since we have the boiler to generate the steam.

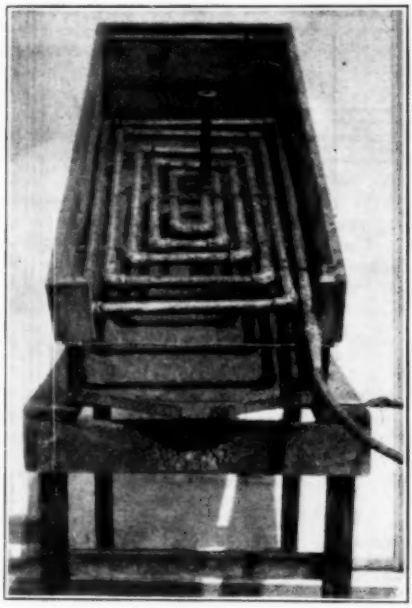


Fig. 1.—David Running's capping melter as arranged for steam heat. This melter is used to melt the cappings after they have drained instead of as they fall from the knife.

Note that an opening was made at the lower corner of melter and a small steam hose connects with this from end of the steam coil that rests inside the melter.

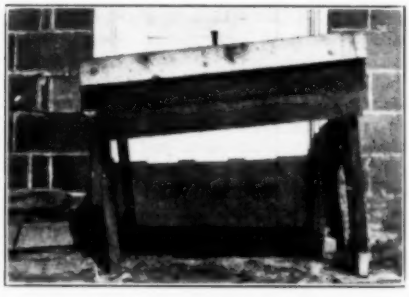


Fig. 2.—Capping melter assembled, showing slope which causes the melted wax to flow from the melter freely.

A rim about 5 inches wide fits on top of the melter and a cover over this retains the heat. We use this outfit only after the cappings have stood for several days in the large 12-barrel tank that we use for a capping box. The lower compartment is kept full of water which is heated by the steam after passing through the coil. We keep the back end elevated considerably higher than the front, so that melted wax runs freely from the melter.

David Running.

Filion, Mich.

**Feed Queens Before Introducing.** I have noticed that several beekeepers fail in getting colonies to accept new queens as they should when introducing. I believe their loss is because they neglect to feed the queen and bees in the mailing cage a drop or two of honey and also a drop of water. Notice how quickly a queen and bees will take the honey and water when given to them after coming through the mail.

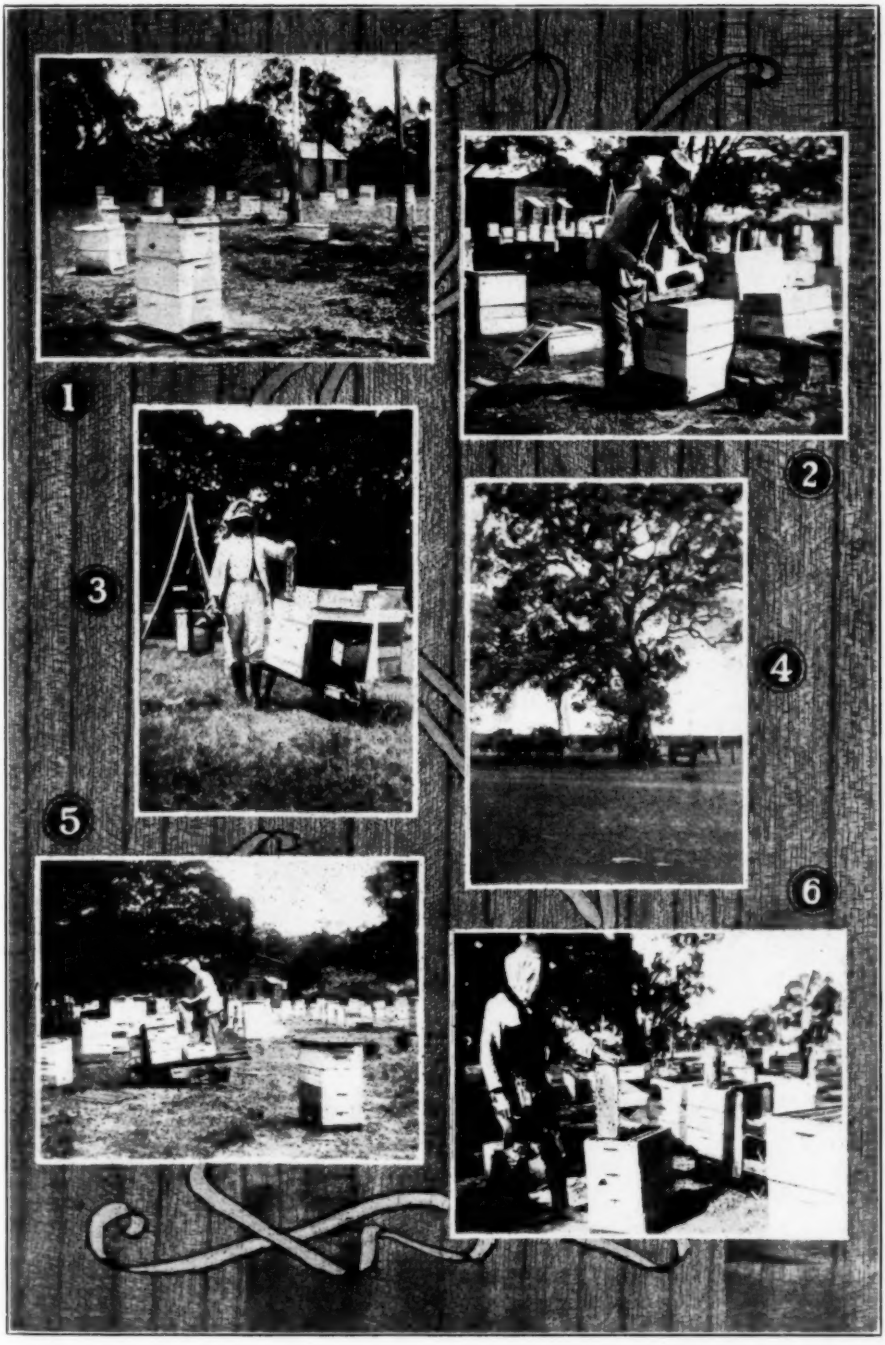
I have fed queens before introducing ever since I have been working with bees. If you receive a package of bees the first thing you think of is to feed them, but do you think about feeding the queen that is in the mailing cage? If the beekeeper who has trouble introducing queens will feed the queen before introducing, he will find that the loss will be much less than before.

Merom, Ind. C. B. Saunders.

**Size of Queen-Cell Cup.** In regard to the size of Doolittle dipped wax cell-cups, a size of about 7/16 by 3/4 to 7/8" long, if I remember correctly, was recommended by Mr. Aeppler some years ago, as securing the greatest per cent of acceptance. Here, the bees almost invariably cut down such jumbo cells to about 5/8 to 3/4" deep, and usually try to make two or three small cells inside of each, and accept a minimum number of such big cells. Here the best results are usually had with cell cups about 5/8 to 7/8" deep and not over 3/4" in diameter. In fact, I make the dipping-sticks about 5/8" in diameter, just above the bottom, tapering to about 3/4" a half an inch from the end. I do like them a little larger than the pressed cups usually furnished which are considerably less in diameter than most of the natural cell cups here. Some of the natural cell cups, with swarm or supersedure cells, are 5/8" in diameter; but despite that fact, we cannot get as uniform acceptance of grafted cells of such large diameter.

E. F. Atwater.

Meridian, Idaho.




BEEKEEPING IN AUSTRALIA.

(1) An out-apiary of Victor Blakes some 12 miles from Balmoral, Australia. (2) Herbert Butler taking off honey from his home apiary. Mr. Butler favors the "Bolton" or "Heddon" hive. (3) Evan B. Macpherson at Mr. Butler's home apiary. Scale hive gained 12 to 20 pounds per day from the red gum honey flow. (4) A red gum tree in full bloom. 5) Another view of Mr. Butler's home apiary. The "Red Gums" can be seen on the sky-line. (6) One of Mr. Butler's out-apiaries.

# TALKS TO BEGINNERS

Geo. S. Demuth

The luxuriant growth of clover in the clover region, together with the cool, rainy weather of June and the fore part of July, has greatly prolonged the honey flow in this region. In some localities the honey flow from clover will no doubt continue until the first of August or even later. In localities where buckwheat is grown, there will probably not be the usual break between the clover honey flow and the buckwheat honey flow and in those localities having a honey flow from other fall flowers the usual dearth of nectar during the forepart of August may not occur this season. Where the honey flow has not already closed, the beginner should be alert for indications of its close as described in these talks last month and the supers should be handled accordingly. In the far north probably most of the early crop of surplus honey will be taken off the hives in August this season, instead of July as usual.. The beginner who has filled supers ready to take off this month should read again the directions for taking off honey as given in this department last month. Since in many localities a dearth of nectar may be expected during at least a portion of August, great care should be taken in removing honey to prevent being stung, and also to prevent the start of robbing. In this connection the beginner who has had plain sailing thus far without any robbing should read again what was said about robbing in these talks last month.

### Storing and Marketing Honey.

The finished supers of comb honey after having been sorted as described last month, should be stored in a warm, dry place, for honey absorbs moisture readily from the atmosphere when exposed in a damp place which sometimes causes the honey to become so thin that it bursts out through the cappings, giving it a messy appearance and greatly injuring its delicate flavor. In an attic or an upstairs room is a good place to store comb honey. The supers can be piled in a tight pile and covered securely to retain the aroma characteristic of new honey. If the supers are needed to give the bees more room, of course, the finished honey can be taken out of them and stored elsewhere.

In preparing comb honey for market, the sections should be carefully taken out of the supers and the propolis scraped from their edges. They should then be put into a shipping case having a glass front if they are to be displayed in a grocery store, or arrangement should be made with the grocer to have them placed in a glass display case, for it is the appearance of comb honey that sells it.

### Harvesting Extracted Honey.

The beginner having only a few supers of honey to extract will find it best to have the extractor set up and ready to run before the honey is taken off, then extract the honey immediately on taking it from the hive. When this is done the honey comes out of the comb cleaner because the honey is still warm from the heat of the hive. With a hand extractor it would be difficult to throw out the honey after it has cooled off.

The beginner should not make the mistake of selling his honey at too low a price. When honey is sold locally to one's neighbors the price asked should be at least equivalent to the retail price at the grocery. On our market pages will be found the prevailing retail price as well as the price to dealers for various localities. The beginner having only a small amount of honey to sell can usually obtain a higher price than these given. Those having small lots of honey for sale should talk honey to their neighbors and in every possible way bring this delicious food to the attention of possible consumers in their vicinity. Often beginners who find a ready market for their honey soon sell all they have produced and find their customers asking for more. In all such cases the beginner should by all means purchase honey from a more extensive producer and supply his customers throughout the year.

### The Foundation for Next Year's Honey Crop.

While it may seem out of place to mention preparation for next year's honey crop now, the fact remains that the amount of honey secured next year depends largely upon the management of the colonies during August and September. The beginner who will soon be confronted for the first time with the wintering problem should know that preparation for winter really begins in July and August instead of in October as many beekeepers apparently think. The prosperity of the colonies during August and September is far more important in the preparation for winter than anything that can be done in the way of protecting the bees in October or November.

The worker bees that are now in the hive are not the ones that will compose the winter colonies. A new force of bees must be reared between this time and the fore part of October in order that the colony may have sufficient young bees to withstand the winter. Anything that will interfere with the rearing of a normal amount of brood during the next two months will seriously interfere with good wintering. Among those things which sometimes interfere with brood-rearing at this season are a lack of sufficient food, a poor queen, queenlessness, an insufficient number of workers, and in some cases insufficient room in the brood-nest on account of being crowded with honey.

**August a Time to Requeen.**

In localities having a honey flow from fall flowers, such as swampy locations, locations in a river valley or where buckwheat is grown in abundance, practically all colonies will of their own accord rear sufficient bees for winter, but where the fall honey flow is lacking, colonies having old queens and colonies that run short of stores, will not be at all prepared for winter, so far as young bees are concerned. Since young queens lay more eggs during a dearth of nectar than old ones, colonies having young queens are, as a rule, in better condition for winter than colonies having old queens. For this reason the parent colonies are, as a rule, better than swarms at the beginning of winter. One of the first steps, therefore, in the preparation of next year's honey crop is to requeen every colony having an old or otherwise inferior queen. The beginner who does not know the age of his old queens will do well to replace every queen that swarmed this season except in the case of after-swarms which already have young queens. The queens of parent colonies are young queens and of course need not be replaced. As a rule, queens should not be kept when more than two years old; and many beekeepers, especially extracted-honey producers in the South, prefer to requeen every year. In requeening, the new queen should be introduced in time to begin laying early in August, for if introduced too late brood-rearing is interfered with just at the time young bees for winter should be reared. While it is well for the beginner to obtain at least a few queens from some reputable queen-breeder, he should as soon as possible learn to rear queens himself, if he has time for this, if for no other reason than the pleasure of rearing them.

The next important consideration in preparing for next year is that of leaving plenty of honey when taking away the surplus. If colonies run short of stores in August or September, they will be in poor condition for winter, for brood-rearing is reduced under these conditions. The safe rule to go by here is to leave each colony more than it can possibly need. In order to insure sufficient brood-rearing during August and September in localities not having a fall honey flow, each colony should have a supply of not less than 15 pounds of honey at all times through the dearth of nectar, if there is one. This is equivalent to three solid combs of honey. Colonies which have been employed in extracted-honey production usually have but little honey left in the brood-chambers after extracting, so it is necessary to leave some honey in an upper story when taking off the extracting supers. In the event that the bees have failed to produce surplus honey and are short of stores this month, it may be necessary to feed sugar syrup to supply the deficiency, unless they are gathering sufficient from the field. It often happens that newly hived swarms run short of stores at this season and need to be supplied with combs of honey or fed sugar syrup.

**Supply Each Colony with Food Chamber.**

One of the safest ways to insure that every colony shall be well supplied with honey throughout the late summer and fall as well as for winter and next spring is to supply each colony with a food chamber. This is simply a shallow extracting super which should be filled with honey during the early honey flow, thus insuring that the honey is of the best quality for winter stores. In producing extracted honey this food chamber is tiered up among the extracting supers during the honey flow, and when the supers are taken away it is left on the hive, thus insuring an abundant supply of food during a possible dearth in August or September as well as stores for winter and spring. For most localities such a food chamber, together with sufficient strength of character in the beekeeper to leave this honey with the bees instead of taking it away, is one of the best investments a beekeeper can make. One of the greatest hindrances in the development of beekeeping in this country has been the tendency of beekeepers to take away too much of the honey, leaving the bees only enough to pull through, which often means greatly weakened colonies and a poor crop the following year. It is to be hoped that the 1924 class of beginners will not be guilty of robbing the bees too closely, and if necessary let them have all they have stored in order that the bees may pay it back many fold next season.

XUM

# GLEANED BY ASKING

Geo. S. Demuth

**Care of Extracting Combs.**

Question.—How can I store my extracting supers so the wax moth will not get in them?

Ohio. Lester Murray.

Answer.—The safest place to store extracting combs is back on the hives so the bees can take care of them until the approach of cold weather. You can tier them up several stories high on a few hives, for each colony can take care of a half dozen supers of extracting combs. An objection to this plan is that the bees often store some honey in the lower supers, making it necessary to run these combs through the extractor again when finally taken off. In your locality, when extracting is done late the combs can be stored in the honey-house after being cleaned by the bees, for the wax-moth can not develop after cold weather. When extracting is done in August, however, it may not be safe to store the combs without fumigating them about two weeks after storing. This can be done by piling the supers in tight piles, then placing one ounce of carbon bisulphide for each three supers in a shallow pan or dish on top of the pile in an empty super, the pile then being tightly covered.

**Fumigating Comb Honey.**

Question.—How much carbon bisulphide is needed to fumigate a dozen supers of comb honey to kill any larvae of the wax-moth that may be in them? C. G. Niemann.

Ohio.

Answer.—For 12 comb-honey supers containing 4¼x4¼ sections, use two ounces of carbon bisulphide. For supers containing 4 x 5 sections or for shallow extracting supers for chunk honey use two and one-half ounces for 12 supers.

**Healthfulness of Comb Honey.**

Question.—Is extracted honey healthier and more digestible than comb honey on account of its containing no indigestible wax?

New York. C. E. McCarthy.

Answer.—The wax eaten with comb honey is not injurious. In fact, it may be slightly beneficial in adding to the bulk of material in the alimentary tract just as bran, the indigestible portion of wheat, is beneficial if not enough other roughage is eaten.

**Waxy Taste of Honey from Melted Cappings.**

Question.—How can the waxy taste in the honey from cappings when melted be prevented? After acquiring this state can it be removed in any way? Edward Adam.

Illinois.

Answer.—The waxy taste is brought about by heating the honey and wax together. After the honey has acquired this taste there is no way of removing it. It is important to drain as much honey out of the cappings as can well be done before melting, so that but little honey will have its flavor injured in this way. It is also important to use only as much heat as is necessary to melt the cappings, then the honey should be separated from the wax as soon as possible after melting to prevent this waxy flavor. In using the capping-melter the hot wax and honey are quickly separated so that there is but little injury to the flavor of the honey.

**Building Up Nuclei After Close of Honey Flow.**

Question.—I made 20 three-frame nuclei at the close of the honey flow. Can I cause them to draw foundation and build up to full colonies for winter by feeding sugar syrup?

West Virginia. F. B. Lambert.

Answer.—Yes. The nuclei can be built up by feeding if a sufficient amount is fed and the feeding is continued long enough. They should be fed enough every day or two so that they will gain slightly in stores. This will require a surprisingly large amount of syrup as the colonies increase in strength. If feeding is discontinued later, after the combs are all built, the colonies should each be given two combs of honey if there is no fall honey flow to tide them over until time to feed for winter or they should be fed about 20 pounds of sugar syrup. If there is a fall honey flow feeding can be discontinued as soon as the fall flow begins.

**Amount to Charge for Extracting Honey.**

Question.—How much should be charged for extracting honey for others when brought in in small lots of from three to ten supers?

South Dakota. A. Henline.

Answer.—Probably one cent per pound would be about right for small lots. If you are equipped with a power extractor and an up-to-date equipment you can do this for less, especially if large lots are brought to your honey-house for extracting.

**Rearing Young Queen in Lower Story.**

Question.—What, if any, objection is there to placing the old queen in the second or third story with an excluder over the brood-chamber to raise a young queen below without any interruption of egg laying?

Massachusetts. J. A. Bisehoff.

Answer.—During a good honey flow a young queen can be reared and mated in this way. Usually, however, the young queen is reared in the upper story, then later put below the excluder after killing the old queen. In this case an opening must be made above to permit the young queen to go out to mate. If the queen is placed above and the bees permitted to build queen-cells below, it will be necessary to destroy all but one of

the queen-cells just before any of the young queens emerge since otherwise the colony would probably swarm soon after one of the young queens emerges. There is no advantage in having no interruption in egg-laying if the requeening is done at a time that the resulting young bees would not be useful either as gatherers or as winter bees. In localities which do not have a fall honey flow a break in egg-laying during the latter part of July or early in August may actually be an advantage, but in localities having a good fall honey flow, it would be advantageous to have both the old and the young queens laying in their separate chambers previously to the beginning of the fall honey flow.

**Natural Span of Life of Queen Bee.**

Question.—How long does a queen bee live if she does not meet with an accident?
Missouri. C. W. Musser.

Answer.—The life of the queen bee is usually two or three years, but under some conditions a queen may live four or five years, and in exceptional cases even longer. A queen will live longer if kept in a nucleus than in a powerful colony. Queens retain their usefulness longer in the north than in the tropics where brood-rearing continues during most of the year. Also when comb honey is produced queens live longer than when extracted honey is produced, presumably because brood-rearing is somewhat restricted in comb-honey production.

**Appearance of Sacbrood.**

Question.—Do cells of sacbrood have sunken or perforated cappings, thus giving them the appearance of 'American foul brood?
Tennessee. P. I. Pryor.

Answer.—The cappings are often perforated and resemble somewhat the appearance of American foul brood; but the appearance of the dead larvae is quite different. In sacbrood the larva turns dark in color and sinks down in the middle forming a sort of boat-shaped mass with the ends projecting upward instead of slumping down in a shapeless mass as in American foul brood. The dead larvae in sacbrood can easily be removed instead of adhering to the cell wall as in American foul brood, and on puncturing the skin of the dead larvae of a certain stage the contents are liquid, while in American foul brood the entire mass flattens out on the lower cell wall, the saclike appearance being entirely absent.

**Scraping Sections of Comb Honey.**

Question.—When scraping sections should the stain be scraped away down to white or just the propolis scraped off?
Washington. Bert R. Malin.

Answer.—Most comb-honey producers simply scrape off the propolis without attempting to remove the stain. However, the tops of the sections if badly stained should be well scraped. Some beekeepers paint the tops of the sections with a coat of paraffine before placing the supers on the hives to prevent staining.

**Purpose of Yeast in Making Honey Vinegar.**

Question.—Does the use of yeast in making honey vinegar improve the quality of the vinegar? A. A. Copeland.
Washington.

Answer.—The yeast is added to hasten the action and thus reduce the time necessary to make the vinegar. It probably does not in any way improve the quality of the vinegar.

**Ants Troublesome in Beehives.**

Question.—What can I do to get rid of ants in my beehives? I. N. Doty.
Pennsylvania.

Answer.—The ants which you find around the beehive seldom do any harm to the colony in the North. Unless you find that they are entering the hive in great numbers you need not be alarmed about them. Strong colonies will not permit ants to enter the hive. If a colony is so weak that it permits ants to enter, the cause of the weakness should be determined and corrected. Ants are frequently found between cracks in the hive parts where they take advantage of the warmth of the colony. Ants sometimes injure bees in the tropics, but not in the North.

**Introducing New Queen When Old One is Removed.**

Question.—Can a queen be successfully introduced in less than two days after the colony is made queenless? M. N. Wheatley & Son.
Arkansas.

Answer.—Yes. In fact, the old queen should not be taken away until the new queen arrives ready to be introduced. The directions on the mailing cages in which queens are sent out usually advise not removing the old queen until the new one arrives.

**Carrying Over Combs of Alfalfa Honey for Feeding.**

Question.—I find it necessary to provide from 30 to 50 pounds of honey or its equivalent in sugar previous to the honey flow by a month or so. Would you advise saving combs of alfalfa honey from one season to the next for this purpose when most of this honey will be granulated? Robert W. Stratton.
California.

Answer.—Carrying over combs of alfalfa honey that is liable to granulate hard before the next spring, would be a questionable practice. Sometimes alfalfa honey granulates so hard that it is difficult for the bees to use it. Honey from other sources that does not granulate can be saved and used in this way, but honey that granulates hard would not work out well. It will be better to extract the honey and save it to feed the bees the next year.

# BEES, MEN AND THINGS
(You may find it here)

"I've been visiting beekeepers in four states. I find the worst trouble is price cutting. Price cutting is worse for beekeepers in New York, Pennsylvania, Ohio and Michigan than foul brood. I wonder how we can stop it."—Geo. B. Howe, Jefferson County, N. Y.

"The successful beekeeper is he who studies his bees and is prompt with attention and manipulations. Beekeeping is not a paying business for the shiftless beekeeper. Take time enough to go through your hives at least once a week. You can do this in the noon hour. With so much important and 'jam-up' farm work to do at this time, it is a mighty easy thing to let the bees 'go to the dogs.' Let's keep the bees in as good condition as possible by taking a little time for their attention. Give them plenty of super space."—The Monthly Bee Bulletin, Anderson County, S. C.

"Up to the present time I have shipped 2750 barrels and have a stock on hand in the warehouse of about 400 barrels; and by a careful estimate I shall get from the fields some 625 barrels. The prices this year in the European markets have been satisfactory, and the only thing that we can regret is that the coming year will not afford us as good prices as did the one just past."—Emilio Hernandez, Cuba, May 9, 1924.

"I have only a few bees, 30 to 40 stands and run for comb honey only, and it is a hobby of mine. It is a diversion from business, and I get a lot of pleasure from it. We are on the banks of White River with prairie on the west. So, in spring the bees gather honey from the river bottoms and from white clover, which is plentiful, and later in the season from Spanish needle on the prairie fields. In the early season the honey is white, and later amber in color. I dispose of all my honey direct sale at 25c per pound, and average 70 pounds to the colony, spring count. All product is usually good flavor."—B. W. Coyle, Prairie County, Ark.

"An intensely hot and suffocating day with thunder clouds in the west. A call from the house that several swarms were out, but I could not leave the garden where I had two men at work until big drops of rain began to fall. The men ran to the woodshed and I rushed to the apiary. Filling two hiving hives with frames, and grabbing two pieces of carpet, hurried to the two swarms on small trees not far apart; spread the carpet on the ground, set a hive on each piece, shook one tree and then the other and got under shelter partly drenched. The entire process occupied less than ten minutes. Strange as it may seem, though, neither colony could get under cover before the heaviest downpour. As soon as the rain stopped, into the hives went those bees and not back on the trees in little bunches as is usual in fair weather. I challenge any boy of my age—63—to beat this for quick work."—Edward F. Bigelow, Sound Beach, Conn.

"Gleanings received a few minutes ago, and note Harry Cross, California, page 460. Last year I had good success by giving queen-cells with thick wall (artificial) between top-bars next day after dequeening; but never had success by the plan Mr. Cross suggests."—Delbert E. L'Hommedieu, Story County, Iowa.

"I have had some experience as a bee-hunter, finding from five to nine bee-trees each season in this section of the country, but found many more in Ohio. In Wood County, Ohio, myself and two young cousins found 87 bee-trees in the fall of 1908. I never saw wild bees so thick in my life. A bee-hunting box was entirely out of the question. We simply walked about four rods apart through each piece of woods, watching the streaks of sunlight between the trees and the shady or dark sides of the limbs, in order to locate them. Tubs upon tubs of partly strained honey were strewed about the yard, while honey was given away by the tubful to the neighbors."—C. C. Spink, Warren County, Pa.

"I have only 30 colonies of bees but have built them up to almost pure three-banded Italians throughout. I am a railroad man and keep bees as a sideline and a source of pleasure. I put in a lot of time with them. Indications are good for another good honey flow this coming season."—J. K. Harris, Tom Green County, Texas.

"Reports of the 14 members of the Lehigh Valley Beekeepers' Association on the production of honey in 1923, show that 8256 sections of comb honey were produced, 8772 pounds of extracted honey and 100 pounds of chunk honey. This was from 230 colonies, spring count, which were increased to 310, October count."—C. D. Ruth, Lehigh County, Pa.

# A. I. Root's Story of His Own Life

The getting of treasures by a lying tongue is a vanity tossed to and fro of them that seek death. —Prov. 21:6.

By April, 1887, the claims against Mr. Horn had pretty nearly stopped coming in. Eighty-five persons in all reported. The greater part of these had sent money for which they had received nothing in return, so that the total amount of money claimed was $438. The number of individuals was large and the amount of money small, so I decided to forward all letters to Mr. Horn, keeping for future reference the addresses of the parties and the amount claimed. Mr. Horn agreed to give his note payable in two years or much sooner if possible. He agreed to send his note to every person who wanted money returned for orders unfilled, and he publicly stated that he had done so. However, he did not send out the notes. A letter from a subscriber in his vicinity told that he had had bad luck and left the place to hunt for work. His positive statement to the effect that he had sent notes to all he was owing when he had sent no notes at all, seemed to indicate that he was not a truthful man.

In the July number of Gleanings for 1887 I stated that while I could not see wherein I had been at fault, or how I should be able to guard against a similar imposition in the future, I had decided to make good the amount that my subscribers had lost by patronizing Mr. Horn. I offered to send bees, queens or books at my regular prices to anyone who had lost money through him, making good to the full extent of the loss. This offer applied, of course, only to those who had sent money in answer to the advertisement in Gleanings. For a long time I had much charity for the man, as I believed he was simply unfortunate or lacking in judgment. The evidence as it finally came in, however, convinced me that he was untruthful, and a man who would lie, would, as a general thing, steal sooner or later. If it was true, then, that I unconsciously permitted a liar and thief to occupy my advertising pages, I felt responsible.

### Professionals in Fraud.

In the January number for 1874 I omitted the usual heading above my "humbug and swindle" column, out of respect to the sex of the one under consideration. A subscriber wrote me enclosing a circular from Lizzie E. Cotton. I wrote her, as I always preferred to hear both sides of all questions. She replied that she held herself responsible for all statements made in her circular and should hold me responsible for any statement which I might publish in relation to her or her business. She added in a postscript that much is often gained by minding one's own business. Now it seemed to me that the lady certainly could not complain if I assisted her in advertising by giving a few extracts from her circular without note or comment, and without any charge whatever, letting our readers determine for themselves just where she should be classed. Therefore I published the circular in question. It gave a description of her hive and method of management which contained a good many extravagant claims, of course. She advertised a feed for bees costing only 6 cents a pound, saying that there would never be any loss with this food. In her price list she agreed to sell a vigorous colony of Italian bees in her controllable hive with full and minute directions for management—all at the price of $30.00!

For a long time after that Mrs. Cotton continued to be the sole candidate of my humbug and swindle department in Gleanings. William Clement of Malcolm, Iowa, sent me a letter too long for publication detailing how he sent her a swarm of bees in exchange for her hive and system. After some correspondence he received a Langstroth hive made of hemlock boards too rough even to be used for a hen's nest.

As for the new system for getting $50 per hive in one season he wrote in vain and never received so much as a scrap of paper in regard to it. As he paid about $3.00 express on the hive he was worse off than a neighbor of his, Levi Parker of Reading, Iowa, who sent her $10 and never received so much as a word of reply in answer to his many letters. In the latter part of 1878 the Farm and Fireside contained a caution advising their readers to beware of Mrs. Cotton and referring to a statement I

had made in Gleanings regarding her disagreeable habit of making no returns for money sent her.

Mrs. Cotton, with her feminine handwriting, was almost too much for the editors of certain papers, and, what is most strange, especially the editors of religious papers. She would frequently get them to insert the following editorial notice in the same issue containing her advertisement:

"HONEY BEES.

"The especial attention of our readers is called to the advertisement of Mrs. Cotton in another column under this head. Mrs. Cotton, we believe, is one of our most successful beekeepers."

Now was it right for an editor of any kind of a paper, to say nothing of a Christian paper, to insert such a notice when paid for it? Some of the religious papers defended her, saying they had affidavits of her postmaster and express agent as to her honesty and reliability. However, I had letters from both her postmaster and express agent showing that the affidavits given in her circular were far from being a straight transaction. One religious paper, the Sunday School Times, agreed with me exactly. This is the way they fixed the matter in their issue for October 25, 1879:

"A WARNING.

"The readers of this paper are here warned against responding further to the honeybee advertisement of Mrs. Lizzie E. Cotton that appeared in the issues for October 11 and 18. Information has been received which justifies this notice. If any of the subscribers of this paper have failed to get returns for money sent to her, the loss will be made good by the publisher upon notification."

**N. C. Mitchell.**

I was much more vehement than the editors of the other journals in denouncing N. C. Mitchell. Sometimes, however, I wondered whether my course had been really a better one than theirs. Mr. Mitchell had taken money from great numbers of people and had given them in return rights that were without doubt of no use to them. He had also taken large sums for recipes that he claimed were of great value. He had also received money from others for queens and bees that he never sent them, but did it follow that our erring friend was alone to blame in this matter? All these offenses were permitted by law, or at least it was very difficult for the law to get hold of the offenders who had no property. The law permitted one to take $100 for a right for a single county, or as much more as he could get, and if it should transpire that the purchaser paid for the right to use something that had already been free to all, was he not very much at fault in making so foolish and injudicious a purchase?

In 1874 Mr. Mitchell was most active in the field of humbugs and swindles in spite of the fact that I had already devoted considerable space in showing up his various exploits. His new field seemed to be scattering circulars and asking various postmasters to assist him in getting agents. His circular told of his queen-breeding apiary in the South where he had 5000 Italian queens, 5000 nuclei and 1000 full colonies. He said that agents could make $100 or $500 a month. Now if Mr. Mitchell had really had 5000 queens and nuclei I would have helped him sell them with pleasure, provided he first paid up old scores and sent queens already paid for and long promised. The reports, however, did not speak favorably of his business transactions.

In December, 1875, Mr. Mitchell was still at work; and, although I had frequent reports of him, I had not thought it best to devote the space necessary to posting the readers of Gleanings on each one of his new pretexts for obtaining money. His latest scheme was to give a swarm of full-blood bees to each of his pupils so they would be sure of some equivalent for the $30 they had sent him; but, alas, he informed them the bees could not be shipped before spring, so all they had, after all, was the same old story—his promise and nothing else. I would have been glad to hear some good of Mr. Mitchell; but I never heard of his sending out a single queen or bee, according to his constant promises.

In the December number, 1889, the matter of the Golden Bee Hive fraud, promoted by J. B. Pickerel, came up. The circulars contained the following sentence:

"Prof. A. J. Cook of the Michigan Agricultural College at Lansing reports over $80.00 from each swarm of bees kept in the Golden Hive last year."

Now a man who year after year would print such a statement when Prof. Cook never made such a report and never had the Golden Bee Hive in his apiary at all, would probably do anything to get money. About this time Mr. Pickerel was in North Carolina selling farm rights for $8.00 and giving a hive.

# HOWARD ROOT CALVERT

Howard Root Calvert, only son of Mr. and Mrs. John T. Calvert, was born in Medina November 13, 1891. As a boy he was always busy in mechanical and electrical devices with a following of younger boys ardently devoted to him. He had a pure mind and high ideals. He went through Medina schools with a high record and perfect deportment, graduating from high school in the class of 1910, and then going to Oberlin for his college course from which he was graduated in 1914. He served his class with credit and honor, making many tried and true friends. He was popular not only with the members of his class but throughout the college and among the townspeople. He loved younger boys and did much work with them in Sunday school and Y. M. C. A. and the boys in turn loved and followed him.

After graduating from Oberlin he worked for The A. I. Root Company, of which his grandfather, A. I. Root, was president, and his father treasurer and for many years manager. He went to California in 1915 in the interests of the company and there met Ethel Helen Acklin, daughter of Mrs. H. G. Acklin, of Oakland, California, formerly of St. Paul, Minnesota. He had known her since childhood, when her parents managed the St. Paul branch of The A. I. Root Company. The attraction between the young people was strong and they were married June 29, 1915, just after the death of her mother, who was then managing the San Francisco branch of The A. I. Root Company recently opened. He took charge of the branch, continuing in the work until the following December, when, with his wife, he returned to Medina. For seven years he was actively engaged in the work of the company, interested in various lines of work. Most of the time he was assistant to H. H. Root, general manager, and was also a director. He was finally chosen secretary, which office he filled for nearly a year before leaving the service of the company.

Like his grandfather, A. I. Root, he was keenly interested in new developments. From boyhood he had a desire to learn to fly, and would have joined the airmen sooner than he did but for the restraining influence of his mother. He was descended through his grandfather from the Harts, who came over with the Pilgrims in 1634, and settled and named what is now the city of Hartford, Conn. His great-great-grandfather, Jesse Hart, predicted many years ago that "the time would come when men would fly like the birds."

The older readers of Gleanings will recall Mr. Root writing in these pages of his visits to Dayton to see the Wright Brothers in their early attempts to fly and how he was the first to publish to the world of their success.

Howard began taking lessons in flying in April, 1922. For several years previous to this he took an active interest in aviation and studied the principles of the art of flying. He was an apt pupil and soon became an expert flyer. It happened that Stow Field, where he did most of his flying, was close to the two towns in Summit County, Ohio, to which his great-great-grandparents came as pioneers more than one hundred years ago. Jesse Hart and his wife, Freelove, settled in Mogadore, and Samuel Root and wife, Rebecca, settled in Tallmadge. These ancestors of Howard's, grandparents of A. I. Root, are buried at these towns, and many times during the last year Howard has flown over their graves and over the beautiful old colonial church which his ancestors and other relatives helped to build nearly one hundred years ago. The Tallmadge Congregational church will celebrate the 100th anniversary of its church building in 1925. It is so well preserved that it looks to be good for another hundred years.

He has given the past year since leaving the service of The A. I. Root Company almost wholly to aviation, making Stow Field, north of Akron in Summit County, Ohio, his headquarters. He was taking up passengers as opportunity offered. He had a class of nearly a dozen students to whom he was giving lessons. He, with a photographer, had recently taken a number of airplane photographs and had plans for many more. On Friday evening, June 27, he was giving a lesson to Miss Wickersham, one of his star pupils nearly ready to graduate. She was in the pilot's position while he occupied the forward seat. They had looped the loop once and were going over the second time on rather too long a swing when the engine stopped, leaving them in an upside-down position, at about 1500 feet altitude. The plane descended without righting itself in spite of their utmost effort, striking the ground at an agle of about 45 degrees, their heads striking first. Both were killed, though he continued to breathe for some minutes after being placed in the ambulance.

He leaves his wife, Ethel Acklin Calvert, three little girls, Rebecca, age eight; Roberta, five, and Ruth Ellen, three, also his parents, one sister, Mrs. M. F. Bryant, and many friends, as numerous telegrams and messages of sympathy testify. He met his end as a hero as attested by those who saw the fall which ended his earthly career.

One of his closest friends and roommate in college gives this testimony in his message of sympathy: "He was always a faithful friend, an honest, kind, and good spirit. In Howard's tragic death he joins the long list of those who have given their lives in the application of science to American life."

His cousin, Wynne Boyden, wires from Los Angeles: "You must not grieve too much, you must be proud of Howard. He has dared to do the world a service which lesser men do not attempt. Humanity owes a lot to men like Howard and he served in the greatest way of all by being a true and helpful friend."

These words of sympathy were received from The Commercial Aircraft Association: "In the hours to come, we would that you should not mourn nor grieve for the loved one who has so recently passed from our midst. For we, who also miss him and who also know how he felt while flying, would say the words to you, that we feel he would have us say. "Let their be no mourning as I embark upon my last flight, for during the times that I have flown into the far reaches of the sky, I have thought and prepared myself for this Last Great Flight, and I have faith and confidence that I will find an Airdrome marked Safe Landing in the Great Beyond."

And this tribute from President King of Oberlin College: "I was greatly shocked to see in the morning paper the announcement of the death of Mr. Calvert. Coming so soon after the class reunion, in which he had so large a part, it seems all the harder to believe. He was one of the men whom I could always remember. He called out the confidence and trust of men in rare degree, so that he naturally won a large circle of friends. I rejoice with you in the memory he leaves with you and the children, even while I deeply sympathize with you in your great loss.

"May the Heavenly Father greatly sustain and comfort you, and give you in it all a new sense of the reality and nearness of the other life." —J. T. CALVERT.

XUM

# Classified Advertisements

Notices will be inserted in these classified columns for 7c per word. You must say you want your advertisement in the classified columns or we will not be responsible for errors. For special conditions on bee and queen advertising please write us. Copy should be received by 15th of preceding month to insure insertion. Cash with copy, if credit has not been established previously.

**REGULAR ADVERTISERS DISCONTINUED IN GOOD STANDING.**

(Temporary advertisers and advertisers of small lots, when discontinued, are not here listed. It is only regular advertisers of regular lines who are here listed when their advertisements are discontinued when they are in good standing.)

I. J. Stringham, F. E. Munson, M. L. Nisbet & Bro., M. V. Facey Honey Co., Liberty Pub. Co., E. S. Robinson, R. V. Stearns, John St. Romain, Emil W. Gutekunst, The New England Apiaries, Ruddy Mfg. Co., Mason Bee Supply Co., Van's Honey Farms, Hickory Shade Apiary, D. E. Collier, A. G. Woodman Co., H. D. Murry, Oscar Mayeux, Schenectady Bee Co.

## HONEY AND WAX FOR SALE.

FOR SALE—Clover honey in 60-lb. cans. None finer. J. F. Moore, Tiffin, Ohio.

NEW crop white clover honey in new 60-lb. cans. Write for prices. D. R. Townsend, Northstar, Mich.

CHOICE amber honey, 10c per pound f. o. b. Helena, Georgia. The Stover Apiaries, Mayhew, Miss.

FOR SALE—White clover honey in 60-lb. cans. Prices on request. Hoehn & Honigford, Ottoville, Ohio.

FOR SALE—Comb and extracted white clover honey. Prices on request. Dr. E. Kohn & Son, Grover Hill, Ohio.

FOR SALE—Clover, amber and buckwheat honey in 5-lb. pails and 60-lb. cans. C. J. Baldridge, Homestead Farms, Kendaia, N. Y.

FOR SALE—White clover honey in 14-oz. glass jars, 24 to the case, $5.00 per case, f. o. b. Geneseo. G. A. Bailey, Geneseo, N. Y.

FOR SALE—White honey in 60-lb. cans, also West Indian in 50-gallon barrels. Samples and prices on request. A. I. Root Co., 16-18 Jay St., New York City.

HONEY for sale in 60-lb. tins. White-clover Indian crystallized, 13c per lb., L. A. West Indian honey liquid, 11c per lb. Hoffman & Hauck, Inc., Woodhaven, N. Y.

FOR SALE—A No. 1 water white clover honey in new 60-lb. cans, 11c, in second-hand cans, 10¼c, f. o. b. Moville, Iowa. Cash with order. Satisfaction guaranteed. Virgil Weaver & Son, Moville, Iowa.

FOR SALE—1924 crop. Per case of two 60-lb. cans, white clover, $13.20; light amber, $10.50; buckwheat, $10.20. Free quotations on honey in 5 and 10 lb. pails, 3-oz., 8-oz. and 16-oz. glass tumblers. Address Roscoe F. Wixson, Sales Dept. Dundee N. Y.

OUR 1924 crop of "Townsend Quality" extracted honey will be ready for the market by the time this number of Gleanings reaches you. It is white clover and the price is not much more than ordinary stock. New cans always. Address E. D. Townsend & Sons, Northstar, Michigan.

FOR SALE—Comb and extracted white clover honey, extracted in 60-lb. cans, and 5 and 10 lb. pails. Prices given on request. Sample, 15c. F. W. Summerfield, Waterville, Ohio.

FOR SALE—Now booking orders for 1924 honey crop, delivery after August 1, white clover, two 60-lb. tins, $15.00. Light amber, $13.50. Old crop all sold. J. G. Burtis, Marietta, N. Y.

## HONEY AND WAX WANTED.

WANTED—Cull sections of comb honey. V. S. Gray, Afton, Tenn.

WANTED—Chunk honey in 5-lb. pails. J. E. Harris, Morristown, Tenn.

WANTED—Comb and extracted honey in ton lots. John Schenk, 131 Peete St., Cincinnati, Ohio.

WANTED—White clover and raspberry comb honey for resale. Highest fair market price paid. E. W. Peirce Co., 28 W. Main St., Zanesville, Ohio.

WANTED—A car or less quantity of clover honey in 60-lb. cans. Mail sample and quote lowest cash price for same. A. W. Smith, Birmingham, Mich.

WANTED—Shipments of old comb and cappings for rendering. We pay the highest cash and trade price, charging but 5c a pound for wax rendered. The Fred W. Muth Co., Pearl and Walnuts Sts., Cincinnati, Ohio.

OLD COMBS, cappings or slumgum wanted for rendering by steam press process. We pay cash for wax rendered, trade for supplies or work it into foundation. W. T. Falconer Mfg. Co., Falconer, N. Y.

OLD COMBS WANTED — Our steam wax presses will get every ounce of beeswax out of old combs, cappings or slumgum. Send for our terms and our 1924 catalog. We will buy your share of the wax for cash or will work it into foundation for you. Dadant & Sons, Hamilton, Ill.

## FOR SALE.

FOR SALE—Honey extractor, 2-frame, and power saw table. Nic Klein, Hudson, Iowa.

HONEY LABELS—New design. Catalog free. Eastern Label Co., Clintnoville, Conn.

CONNECTICUT and Rhode Island headquarters for Root's beekeepers' supplies. A. W. Yates, Hartford, Conn.

TWO-HORSE steam engine, no boiler, $35. Good 60-lb. cans, two to the case, 60c. J. W. Utter, Pine Island, N. Y.

FOR SALE—No. 18 Cowan reversible extractor in good shape. First $25.00 check takes same. A. B. Brown, Dorloo, N. Y.

GOOD second-hand 60-lb. cans, boxed, 2 cans to case, 40c. Comb honey cases with glass front, 25c. John Schenk, 131 Peete St., Cincinnati, Ohio.

FOR SALE—Good second-hand 60-lb. cans, two cans to case boxed, at 60c per case, f. o. b. Cincinnati. Terms cash. C. H. W. Weber & Co., Cincinnati, Ohio.

ADAPTABLE BEEHIVES, single or double walled, are sound in principle and are practical. For free information address Geo. P. Wood, Peekskill, N. Y.

FOR SALE—Second-hand 5-gallon cans. Only good cans offered. Two cans each case. Per 10 cases, $6.50; per 25 cases, $15.00. Ask for price on quantity lot. A. I. Root Co., 230 W. Huron St., Chicago, Ill.

FOR SALE—Two-frame extractor. Wm. Oberem, 706 Division St., LaPorte, Ind.

FOR SALE—35 cases 2-lb. honey jars in reshipping cases, 12 jars to a case, at $1.00 a dozen. J. I. Bernstein, Hilliards, Pa.

FOR SALE—7 supers fitted with 32 4x5x1⅞ waxed sections, $1.50 each. Bees healthy. M. G. Ferguson, 14808 Center Ave., Harvey, Ill.

FOR SALE—Good second-hand 60-lb. cans, two cans to case, boxed, at 30c per case. Terms cash. William Dermody, Springfield Gardens, N. Y.

ATTRACTIVE LOW PRICES—Write us for list of odds and ends, shipping cases, hives, etc., first grade, priced to save you money. Dadant & Sons, Hamilton, Ill.

HONEY-NUT CHOCOLATES. A new and delicious confection made of pure honey, nuts, fruits, etc., $1.00 lb., 50c ½ lb., postpaid. Wholesale prices on application. J. D. Kroha, 87 North St., Danbury, Conn.

HONEYMADE NUT CRUSH—A very delicious candy that every beekeeper should eat. Healthful and nourishing. Contains no cane sugar. Dozen 10c bars, $1.00, three dozen, $2.80, postpaid. Sell this candy to your honey customers at good profit. Will make special prices to agents, or will exchange for honey. Write now. Sawyer Bros., R. D. No. 3, Portsmouth, Va.

SPECIAL PRICES—We are offering at specially low prices some very high-grade material in shipping cases, frames, hives and miscellaneous which represent items we no longer carry regularly in stock or which have to be closed out to make room for new stock specially equipped to take Dadant's Wired Foundation. If interested, write for list; we can save you money. Dadant & Sons, Hamilton, Ill.

PROPERTY AND HONEY BUSINESS FOR SALE AT WOODBURN, ONTARIO. The village property consisting of a residence and 5¾ acres of land, on which the late William McEvoy of Woodburn, Ontario, carried on his bee business for the last fifty years, situated in one of the best localities in Ontario, near the city of Hamilton. Bee equipment included in sale. Interested parties requiring further information as to price and terms, apply to Mercantile Trust Company of Canada, Limited, Hamilton, Ontario.

## WANTS AND EXCHANGES.

WANTED—One honey extractor. Palmer Clayton, Quill, Georgia.

OLD bee books wanted. Prof. Francis Jager, University Farm, St. Paul, Minn.

WANT bees and equipment for western Minnesota forty or Red River Valley quarter. A. M. Wise, Appleton, Minn.

## BEES AND QUEENS.

WHOLE colonies of bees, if advertised for sale in these columns, must either be guaranteed free from disease or, if not so guaranteed, the exact condition of the bees and the conditions of sale must be clearly stated in the advertisement; or, it will be satisfactory if the advertiser will agree to furnish a certificate of health from some authorized bee inspector at time of sale.

HARDY Italian queens, $1.00 each. W. G. Lauver, Middletown, Pa.

WHEN IT'S GOLDEN, IT'S PHELPS! C. W. Phelps & Son, Binghamton, N. Y.

BIG, bright Italian queens, 75c each, by return mail. P. B. Skinner, Greenville, Ala.

QUEENS that are guaranteed for one year's service, $1.25 each. Holloway Bros. Apiaries, Marietta, Okla.

LARGE, PROLIFIC ITALIAN QUEENS, $1.00 each; $10.00 per dozen. J. J. Scott, Crowville, La.

THREE-BANDED Italian queens, $1.25 each. $12.00 per dozen, after May 15. Curd Walker, Jellico, Tenn.

SIMMONS QUEENS and NUCLEI. Prompt shipment and satisfaction guaranteed. Fairmount Apiary, Livingston, N. Y.

FOR SALE—Three-banded, leather-colored queen bees. None better. Write for prices. M. Bates, Greenville, Ala., R. F. D. No. 4.

BRIGHT three-band Italian queens, $1.00; 6 or more, 75c. Write for quantity prices. Tupelo Apiaries, J. L. Morgan, Apalachicola, Fla.

GOLDEN ITALIAN QUEENS. Bred by an experienced breeder, price 90c each; $9.00 per dozen. Honoraville Bee Co., Honoraville, Ala.

BEES and full equipment for sale at half price. Bees guaranteed free from disease. Inquire of James McKenzie, Blaine, St. Clair County, Michigan.

GOOD as the best, cheap as the rest. Three-band Italian queens by return mail, $1.00 each; 12, $10.00. S. G. Crocker, Jr., Roland Park, Baltimore, Md.

TO the first new customer answering this advertisement from each state in the U. S., I will give free one of my famous queens. Carolina Bee Co., Graham, N. C.

FOR SALE—Three-banded Italian bees and queens. One select tested queen, $1.50; one select untested queen, $1.00. Six or more, a liberal discount. J. Allen, Catherine, Ala.

JUST BRING HONEY (J. B. Hollopeter) three-banded Italian queens produce bees bred for business. Untested, each, $1.00; 6, $5.50; 12, $11.00; 25, $20.00. Order early. Circular. J. B. Hollopeter, Rockton, Pa.

GOLDEN ITALIAN QUEENS, the big, bright, hustling kind. Satisfied customers all over the United States. Untested, 90c each; 6 for $4.50; 12 for $9.00; $70.00 per 100. Tested, $1.50. E. F. Day, Honoraville, Ala.

AGAIN our northern-bred leather-colored Italian bees have wintered fine, and we guarantee that no disease exists in our yards. Queens after June 15, $1.25 each; $12.00 per doz. Charles Stewart, Johnstown, N. Y.

FOR SALE—Rule Brothers Straight-Line three-banded Italian queens, satisfaction guaranteed. Untested, $1.00; 25 or more, 90c; tested, $2.00; 25 or more, $1.75. Rule Brothers, Terlton, R. F. D. No. 1, Box 30, Okla.

WARRANTED PURE MATED Italian queens by return mail at $1.00 each, in my special introducing cage that never fails. No honey used in candy. I have a good supply of fine queens now so I can fill orders promptly. Daniel Danielsen, Brush, Colo.

FOR SALE—Three-band Italian queens, untested, $1.00 each; six, $5.50; 12, $10.00. Tested queens, $2.00 each. Queens in larger quantities for requeening. Write for special prices on number wanted. Robt. B. Spicer, Wharton, N. J.

ITALIAN QUEENS, THE QUALITY KIND. Three-bands or Goldens. One, 80c; six, $4.50; dozen, $8.50; virgins, 30c; tested, $1.50. FALL REQUEENING WILL REDUCE WINTER LOSS AND INSURE A CROP FOR NEXT SEASON. Satisfied customers everywhere. Complete satisfaction guaranteed. Crenshaw County Apiary, Rutledge, Ala.

XUM

BRIGHT Italian queens. 1, $1.00; 12, $10.00; 100, $75.00. Write for prices on package bees. T. J. Talley, Greenville, R. F. D. No. 3, Ala.

FOR SALE—Bright Italian queens, $1.00; 6, $5.00; 1-lb. package bees with queen, $3.00; 2-lb. package with queen, $4.50. Powell Owen, Greenville, Ala.

MY five-banded golden queens will be ready April 1. 1 queen, $1.00; 6 queens, $5.50; 12 queens, $10.00. W. W. Talley, Greenville, Ala., Rt. 4.

GOLDEN ITALIAN queens, producing large beautiful bees, solid yellow to tip. Package bees, nuclei circular, 1924, ready free. Dr. White Bee Co., Sandia, Texas.

ITALIAN QUEENS—Three-banded, bright and leather-colored. Satisfaction guaranteed. Write for prices, etc. A. T. Keil, Treesdale Farms, Mars, Butler County, Pa.

GOLDEN ITALIAN queens for sale. 1, $1.00; 6, $5.00; 12, $10.00; 100, $75.00. Package bees in season, 20 per cent to book your order for spring delivery. J. F. Rogers, Greenville, R. D. 3, Ala.

ITALIAN QUEENS, 75c each; $8.50 per dozen. Pound of bees with queen, $2.75; two pounds of bees with queen, $4.50. We pay charges. Graydon Bros., Greenville, R. F. D. No. 4, Ala.

ITALIAN three-banded select untested queens for the rest of the season, $1.00 each; 6 for $5.00; 12 for $9.00. My queens will bring results. Try them while the price is low. H. S. Ostrander, Mellenville, N. Y.

FOR SALE—Three-banded Italian queens. Untested, 1 to 11, $1.00 each; 12 to 49, 85c each; 50 to 100, 75c each; tested, $2.00 each. Satisfaction guaranteed. Ready to ship June 1 to June 10. R. B. Grout, Jamaica, Vt.

GOLDEN Italian queens, untested, $1.00; 6 for $5.40; 12 or more, 80c each; tested, $1.50; select tested, $2.50. No disease, good queens, safe arrival and satisfaction guaranteed. D. T. Gaster, R. F. D. No. 2, Randleman, N. C.

FOR SALE—Golden Italian queens, Certificate of State Inspector with each shipment and safe arrival insured. If you haven't seen my prices in May Gleanings, drop me a card for price list. Hazel V. Bonkemeyer, Randleman, R. F. D. No. 2, N. C.

THREE-BANDED bees and queens, government inspected. 2-lb. package with select queen, $5.00; select tested queens, $2.50; untested, $1.00 each or $10.00 per dozen. Carolina Bee Co., W. O. Curtis, Mgr., Rt. No. 1, Graham, N. C.

PRICES right. Pinard's queens and package bees. Quality, satisfaction guaranteed. Young, laying, untested queen, $1.25. Two-pound package bees, $3.50. For larger lots write. Circular free. A. J. Pinard, Morgan Hill, Calif.

PURE Italian Queens by return mail. Reared in natural honey flow and strictly for business. The best are the cheapest. Let me prove it. July, August and September prices: one, $1.00; 6, $5.00; 12 or more, 75c each. J. E. Wing, Chico, Calif.

FOR SALE—Three-band Italian queens and bees for spring delivery. One 3-frame nucleus with one pound extra bees, with untested queen, for $5.00. Write for prices on larger quantities. No disease. Safe delivery and satisfaction guaranteed. J. E. Arthur, Register, Ga.

FOR SALE—Golden Italian queens. Untested, $1.00; 6 for $5.40; 12 or more, 80c each; tested, $1.50; select tested, $2.50 each. Write for price on large quantities. No disease of any kind. Safe arrival and satisfaction guaranteed. Sam Hinshaw, Randleman, N. C.

HIGH grade queens of quality, $1.00 each; $11.00 for 12. W. E. Buckner, Mt. Vernon, Ga.

QUEENS, QUEENS, BY RETURN MAIL. Three-banded, large, bright hustlers. Selected untested, 1, 80c; 12, $8.00; 100, $60.00; selected tested, 1, $1.25; 12, $12.00. No disease, ship only the best, good service and satisfaction guaranteed. W. C. Smith & Co., Calhoun, Ala.

WILL not have any SHAW "line-bred" stock of untested queens for sale this season, but can furnish untested three-banded Italian queens from reliable breeders in the Gulf States in lots of 25 or more at a very low wholesale price. Write E. D. Townsend, Northstar, Michigan, if interested.

FOR SALE—180 10-frame colonies Italians, guaranteed free of disease. 150 wood-and-wire excluders, over 200 supers; 20 quad. packing cases, extractor, capping melter, woodworker's saw, etc. All frames have full sheets wired foundation. No equipment over five years old. Write for particulars. J. R. Whitney, Mendon, Ill.

LATHAM'S "SHE-SUITS-ME" queens are three-banders of highest quality. Untested, in May, $2.00 per queen. After June 1, $1.00 per queen .Special price on 50 or more. Eastern beekeepers and Canadians will do well to try out my package bees and nuclei. Circular on request. Allen Latham, Norwichtown, Conn.

FORTY YEARS of SPECIAL BREEDING. Satisfied customers in all parts of the world is why we think PHELPS'-GOLDEN QUEENS will please you. HARDY, PROLIFIC and GENTLE, $2.00 each for June delivery. July, $1.50 each; 6 for $8.00; dozen, $15.00. C. W. Phelps & Son, 3 Wilcox St., Binghamton, N. Y.

PACKAGE BEES FOR 1924—Yancey hustlers; they get the honey. Three-band strain only. Now booking orders for spring delivery. Place your order early and make sure of shipping date; 10 per cent will book your orders. We do not book more orders than we can fill promptly. Safe arrival and satisfaction guaranteed on every package and queen shipped. Caney Valley Apiaries, Yancey Bros., owners, Bay City, Texas.

THE WONDER QUEENS. We are now in position to ship queens from our high-producing mothers by return mail at the following prices: 1 untested, $1.50; 12, $16.00; tested, $2.25. We are also breeding from other stock at these prices: 1 untested, $1.00; 12, $10.00; tested, $1.75. No disease. Safe arrival and satisfaction guaranteed. Write for circular and complete price list, also prices on quantities. The steadily increasing demand for our queens is proof of their superior quality. J. M. Cutts & Son, R. F. D. No. 1, Montgomery, Ala.

## MISCELLANEOUS.

SAMPLE "BEES AND HONEY," monthly, free. George W. York, Editor, Spokane, Wash.

THE BEE WORLD—The leading bee journal in Britain and the only international bee-review in existence. It is read, re-read and treasured. Will it not appeal to you? Specimen copy free from the publishers. Send us a post-card today. It is well worth your little trouble. The Apis Club, Benson, Oxon, England.

## HELP WANTED.

WANTED—Strong young man of good habits with some experience with bees for apiary work and to assist in honey sales from August to December. Board furnished. State wages expected in first letter. John Kneser, Hales Corners, Wis.

**Patents** Practice in Patent Office and Court. Pat. Counsel of The A. I. Root Co.
CHAS. J. WILLIAMSON.
McLachlan Bldg., Washington, D. C.

**GOLDEN QUEENS AND THREE-BANDED BEES FOR 1924.**

1 Untested Queen, $1.00; 1 Tested Queen, $1.50; 1 lb. package of bees, $2.00; 2-lb. package of bees, $3.00; 3-lb. package of bees, $4.50. Nucleus, per frame, $1.50; 1 additional pound of bees with nucleus, $1.00. No disease, safe arrival guaranteed; bees inspected.
J. W. SHERMAN, VALDOSTA, GEORGIA.

**Queens---Rhode Island---Queens**

Italian Northern-bred queens. Very gentle and hardy. Great workers. Untested, $1.25 each; 6 for $7.00.
Queens delivered after June 1.
O. E. TULIP, ARLINGTON, RHODE ISLAND.
56 Lawrence Street.

**BIG, BRIGHT, NORTHERN-BRED ITALIAN QUEENS**

Bred for beauty and honey-gathering qualities. Untested, $1.00 each; $11.00 per dozen.
**M. P. LeMUNYON**
R. F. D. No. 3, CASSOPOLIS, MICHIGAN.

**New Catalog Ready**
**Beekeepers' Supplies**
Root's Goods of High Quality. Three-ply foundation, standard stock of supplies kept on hand for prompt shipments. Send us your inquiries and orders early for quick action.
**J. NEBEL & SON SUPPLY CO.**
Montgomery County. High Hill, Mo.

**NOTICE OF REMOVAL**

On and after March 1st, I shall be located in my new warehouse at 237 Park St., Medford, where I shall continue to carry a full line of supplies for the beekeeper. ,1924 catalog on request.
**H. H. JEPSON**
237 Park St. Medford, 55 Mass.
(Formerly at 182 Friend St., Boston.)

**Goldens Only**

Untested: One, $1.00; 6, $5.00. Select Untested: 1, $1.25; 5, $5.00. Select Tested, $3.00. Breeders, $5.00. Quality and safe delivery or money back.
**S. H. HAILEY**
PINSON, TENNESSEE.

**GOLDEN ITALIAN QUEENS**

1 Untested Queen .....$1.00
1 Tested Queen .....$2.00
Satisfaction guaranteed.
Queens ready by June 1.
**J. F. MICHAEL**
R. F. D. 1. WINCHESTER, IND.

**HONEY PAILS**
MANUFACTURERS OF
"BLOSSOM-SWEET"
AND
BADGER BRAND
5 and 10 lb. Honey Pails.
We specialize in 5 and 10 lb. round pails and 60 lb. square cans. Plain and Lithographed cans of all descriptions.
**WILKES-BARRE CAN CO.**
ESTABLISHED 1856
WILKES-BARRE, PENNA.

**12 Iris } $2**
**12 Months Sub.**

**"THE FLOWER GROWER"**
Unique among Monthlies
**Luther Burbank says:**
*"No other so thoroughly practical, well-edited and generally interesting."*

THE FLOWER GROWER is all that the name implies **AND MORE.** It tells all about flowers and it tells many other things of interest to those who aspire to better living conditions and more beautiful surroundings. It teaches **balanced activities, a sane perspective and a better outlook on life.**

Departments for the Rose, Dahlia, Iris, Peony, Gladiolus and other flowers. Queries and Answers, Odds and Ends, Musings, Timely Suggestions, Our Birds, and many other helpful and interesting things. An editorial department and an **EDITORIAL POLICY**, which is strangely lacking in most magazines.

Up to sixty-eight 9 x 12-inch pages. Yearly subscription, $1.50. ($2 after Jan. 1st.)

**OFFER:** 12 Iris grown in the Editor's own garden—all different—all good—with full details for planting and culture, postpaid; and a year's subscription (12 issues), both for **$2.00.** Either plants or magazine alone easily worth this price. Irises are hardy northern grown sorts—you cannot fail.

**Plant the Iris, watch them grow and bloom, read THE FLOWER GROWER, AND SEE WHAT HAPPENS.**

**Madison Cooper, Editor, 10 Cou t St , Calcium. N. Y**

(Continued from page 493.)

**Special Foreign Report.**

LIVERPOOL.—Honey market continues steady with perhaps more demand for South American honey than for West Indian, doubtless owing to the discrepancy in price. A fair business has been done in Liverpool which is the market for the South American honey, 460 barrels having been sold since our last report. West Indian kinds, however, have not met with such a good demand. The value in American currency for extracted honey remains at about 11 cents per lb. The beeswax market is steady and the market prices are equivalent to 30-31c per lb. in American currency.

Liverpool, Eng., July 4. Taylor & Co.

**From Producers' Associations.**

Reports from western Colorado indicate a good crop; however the prospects in the Arkansas valley and in northern Colorado are only fair at present. Dry weather and hoppers are lessening the chances of a good crop. There is practically no new honey on the market yet, but by another week there will be. Prices should not be less than last season's. Colorado Honey Producers' Assn.,

Denver, Colo., uly 16.J F. Rauchfuss, Sec.

**The A. I. Root Company's Report.**

We have bought no honey, either extracted or comb, since our last report.

**An Appeal to Beekeepers.**

To the Readers of Gleanings:

Ed. Mitchell is a beekeeper. His address is Castalia, Ohio. He has a wife and nine children, the youngest a baby. His aged father lives with them. The homestead comprised four or five acres of orchard and truck land together with horse, barn and other small buildings, making an humble but happy home. It meant the dreams and hopes and toil of many years. The future was looking brighter.

I have come from this place which was once this home. A different picture now. On June 29, while Mr. Mitchell and wife were in a nearby town, the terrible tornado that devastated portions of northern Ohio, tore a path of destruction for miles, which struck this home squarely. House, household goods, barn, bee supplies, fifty stands of bees, peach orchard, planted crops, all, everything gone but the solid earth. By some miracle none of the family were killed. The grandfather suffered a broken hip, and one child a broken leg.

Friends, were you in such trouble, how would it feel to get some help? It is needed right now. Cash mostly, or at least a can or two of honey for his roadside stand, some bees, or anything to aid this family to have a home once more.

Lend a hand in the cause of our common humanity, addressing Mr. Ed. Mitchtell at Castalia, Ohio. Dr. C. G. Luft.

Fremont, Ohio.

[Gleanings sends $5.00.—Editor.]


# Italian Queens

## MURRY QUALITY

Am only offering untested queens for sale now, but they are beauts. **One untested, 90c; 12, $9.50; 50 or more, 75c each.**

**H. L. MURRY, SOSO, MISSISSIPPI.**

# *Hollopeter's Queens*

and service at their best in August and September, during the buckwheat and goldenrod honey flow. Prices the lowest of the season.

Untested, each, $1.00; six, $5.50; 12, $11; 25 to 100, 80c each. A honey-gathering strain of Italians, hardy, not inclined to swarm. Safe arrival and satisfaction guaranteed.

***J. B. Hollopeter, Rockton, Pa.***

World's Best Roofing
at Factory Prices
"Reo" Cluster Metal Shingles, V-Crimp, Corrugated, Standing Seam, Painted or Galvanized Roofings, Sidings, Wallboard, Paints, etc., direct to you at Rock-Bottom Factory Prices. Save money—get better quality and lasting satisfaction.
Edwards "Reo" Metal Shingles
have great durability—many customers report 15 and 20 years' service. Guaranteed fire and lightning proof.
Free Roofing Book
Get our wonderfully low prices and free samples. We sell direct to you and save you all in-between dealer's profits. Ask for Book No 183
LOW PRICED GARAGES
Lowest prices on Ready-Made Fire-Proof Steel Garages. Set up any place. Send postal for Garage Book, showing styles.
THE EDWARDS MFG. CO.
833-883 Pike St. Cincinnati, O.
FREE
Samples & Roofing Book

## A BARGAIN IN HONEY CONTAINERS.

We have an overstock of cans and pails in cases suitable for reshipping when filled with honey. We offer these for a limited time only at the following special prices:

Box of 24 2½-lb. friction-top cans at $1.15; 10 for $11.00.

Box of 12 5-lb. friction-top pails at 95c; 10 for $9.00.

Box of 6 10-lb. friction-top pails at 80c; 10 for $7.50.

Box of 12 ½-gallon oblong cans with 1¾-inch screw, $1.85; 10 for $17.50.

Box of 6 1-gallon oblong cans with 1¾-inch screw, $1.35; 10 for $12.50.

Box of 10 1-gallon oblong cans with 1¾-inch screw, $2.10; 10 for $20.00.

This is bright new stock offered right down to cost and a bargain to those who use such packages. Order while the stock and prices are available.

6½-oz. honey tumblers, 40 doz. to barrel, including tin caps and wax paper liners, $9.60 per barrel for the few barrels which remain.

**THE A. I. ROOT COMPANY,**
**West Side Station, Medina, Ohio.**

# Root's Roadside Sign

ONLY

$4.95

*Neat, Attractive Letters Quickly Changed*

*Weather Proof Readable from Any Angle*

ROOT'S ROADSIDE SIGN is the best and cheapest sign offered the roadside seller today. The sign that says STOP and BUY. Your profits for one day will more than pay for the sign. Letters easily removed and changed as illustrated. Furnished in two sizes and either single or double face with complete sets of waterproof wooden letters and figures. (Double-faced sign has two complete sets of letters and figures.) Remember other signs with quickly removable letters will cost you very much more. Order your sign now and have it when your honey, fruit, vegetables, etc., are ready to sell.

## Now Ready for Delivery

| | |
|---|---|
| 1½ x 3-foot size, single face (70 letters and figures) | $ 4.95 |
| 2 x 3-foot size, single face (88 letters and figures) | 7.45 |
| Small size (double face), $7.95; large size (double face), parcel post or exp. charges ex. | 11.45 |

THE A. I. ROOT COMPANY, MEDINA, OHIO, U. S. A.

# Requeen

In August and September and thus put your colonies in good condition for next year. Conditions were never better with us for producing the best of queens. I am using an exceptionally fine breeding queen, and from the favorable comments we are receiving from our customers, I believe our queens this year are better than ever.

**Prices.**

1 to 4....$1.50 each
5 to 9.... 1.45 each
10 to 24.. 1.40 each
25 to 49.. 1.35 each
50 to 74.. 1.30 each
75 to 99.. 1.25 each
100 or more 1.20 each

Breeding Queens, service guaranteed for the season, $10 each.

A card will bring our literature.

## JAY SMITH

**ROUTE 3. VINCENNES, IND.**

# Ohio Valley Queens

*For Quality*
*For Service*

Your colonies headed with an Ohio Valley queen now will mean your supers full of honey later.

Mr. H. B. Coyner of Fairfax, Va., writes: "I have one of your queens that last year made eight supers, 32 sections to super, full of honey and her bees did not build any queen-cells. I have several more of your queens that did well."

**Queens of Quality at a Low Price.**

Untested, 1 to 12.....$1.00 each
Select Untested, 1 to 12..... 1.25 each
Select Tested, 1 to 12..... 1.75 each
Virgins (not mated) ..... .40 each
Special Brood Frames, per 100..... 5.75

Wings clipped free on request. Safe arrival and satisfaction guaranteed in U. S. A. and Canada.

## Ohio Valley Bee Company

CATLETTSBURG, KY.

# *REQUEEN WITH HOWELL'S QUEENS*

**AND INSURE YOUR BEES FOR WINTER.**

## *THREE-BAND ITALIANS*

**Untested, 75c each; 50 for 70c each; 100 for 65c each. Tested, $1.50 each. Sel. Tested, $3.00 each.**

## D. W. HOWELL, SHELLMAN, GEORGIA

# Queens
# Queens
# Queens
# Queens

Pure three-banded leather colored **ITALIAN QUEENS.** Bred from a mother that has never **ISSUED A SWARM.** The first to **BUILD UP** in the spring. Gathered **MORE HONEY** than any colony in the apiaries, and **VERY GENTLE.** A record which is seldom equaled.

| | 1 to 5. | 6 to 11. | 12 |
|---|---|---|---|
| Untested | $1.00 each. | $0.90 each. | $0.80 each |
| Sel. Unt. | 1.35 each. | 1.20 each. | 1.00 each. |

Safe arrival guaranteed.

## A. E. WEGER, DELPHOS, OHIO

# Italian Queens 50c

**Superior quality. Pure three-banded Italians. Good as the best. Selected queens, 75c each, or $8.00 a dozen.**

## G. H. MERRILL, Piedmont, S. C.

# *Mott's Northern-Bred Queens*

Select Untested till June 1; $1.25 each; $1.00 each thereafter. Select, guaranteed purmated, $1.25 each. Select Tested, $2.00. Virgins, 50c. 1 and 2 pound packages in June. 172 miles east of Windsor, Ontario. Save two days' trip from the far south.

## *E. E. MOTT, Glenwood, Mich.*

# RUBBER STAMPS

## STAMP SUPPLIES

**Steel Stamps, Burning Brands, Cement Stamps, Brass and Copper Stencils, Corporation, Notary, Box, Bag, Basket, Milk Can and Wax Seals. Numbering Machines, Time Stamps, Inks, Liquid and Dry, all colors, Brass and Aluminum Checks, Brass Dies, Brass Signs, Brass and Aluminum Letters.**

Write for Prices.

**SACKMANN STAMP & STENCIL CO.**
**171 Quaker St., Akron, Ohio.**

# SERVICE

The most important factor in giving the beekeepers complete **SERVICE** is transportation facilities. Syracuse is located right in the **CENTER** of the **BEST BEEKEEPING** territory in the U. S. A. Motor trucks are leaving Syracuse daily going in every direction, freight and express service are the best. Seventy pounds can be sent by parcel post. We also have the best roads to be found anywhere. If you own an auto you can drive into Syracuse, and know that you will get the supplies that you need and be back home the same day. Drive right in to our place. **NO PARKING LIMIT.**

Complete stock of **ROOT QUALITY SUPPLIES** all the time.

## A. I. ROOT CO. of SYRACUSE

**1631 West Genesee Street,**
**SYRACUSE, N. Y.**

## SERVES YOU BEST

**ASK DAD, HE KNOWS.**

# HONEY CONTAINERS

2½-lb. cans, per carton of 100...$4.25
5-lb. pails, per carton of 50... 3.50
5-lb. pails, per carton of 100.. 6.75
10-lb. pails, per carton of 50... 5.00
Above packed in cartons which are dust-proof, light and easy to handle, keeping your cans and pails clean until you are ready to use them.
5-lb. pails, per case of 12.....$1.10
10-lb. pails, per case of 6..... .90
60-lb. cans, 1 per case..... .90
60-lb. cans, 2 per case..... 1.25
Above packed in wooden reshipping cases.

## GLASS JARS

8-oz. honey capacity, tall or fluted, per case of 24 .....$1.05
8-oz. honey capacity, medium, per case of 24 ..... .95
16-oz. honey capacity, tall or fluted, per case of 24 ..... 1.35
16-oz. honey capacity, medium, per case of 24 ..... 1.25
32-oz. honey capacity, per case of 12 ..... 1.00
All above prices f. o. b. Reedsville, Wis. Write for prices on larger quantities of pails and glass jars, stating number and sizes wanted.

## A. H. RUSCH & SON CO.

**REEDSVILLE, WISCONSIN**

# Beeline Queens

Are the best of Pure Golden Italians, reared, mated, culled and caged with extra care and guaranteed to please. Give them a trial this fall and produce a bumper crop in 1925. Reduced prices balance of the season. Untested, $1.00 each; select untested, $1.50 each. Tested, $2.00 each. Descriptive booklet free.

# Majors Nordan

BOX 113, KIMBERLY, ALABAMA.
Golden Headquarters.

## Gray Carniolans

Prices of queens: 1 untested, $1.50; 2 or more, $1.25 each. Select untested, $2.00; 2 or more, $1.50 each. Finest of stock, domestic or imported strains. Write for free 8-page circular.

**W. A. HOLMBERG, DENAIR, CALIF.**

# Root Quality Supplies

East St. Louis, Ill.

**O. G. RAWSON, 3208 Forest Place.**
Send for Catalog.

Authorized Distributor for St. Louis district.
BEES AND QUEENS.

The Russell's Hives are crowded.
The Russell's Hives are jammed.
The Bees that fill the supers are from
The F. M. Russell Strain.

Untested, one, $1.00; two, $1.50; dozen, $9.00.

# F. M. Russell Co., Roxbury, Ohio

The Apiarist's Friend,
GERMAN SCYTHES AND SICKLES.

Permit the maximum work with the minimum disturbance of the colonies. Catalog on request.

THE MARUGG CO., Dept. B, Tracy City, Tenn.

# Honey Wanted

*We are ready at any time of the year to take in small or large lots of extracted honey. Send us a sample and advise quantity you have and the price wanted.*

**HOFFMAN & HAUCK, OZONE PARK, NEW YORK.**

*You can have cash for your wax and old combs or cappings at the market price, or we allow a little more in exchange for supplies. Write for our terms and prices.*

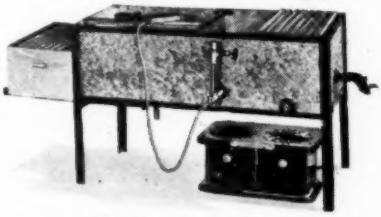
# "Falcon"

SUPPLIES --- QUEENS --- FOUNDATION

*W. T. Falconer Mfg. Company*
*Falconer, New York (near Jamestown)*
*"Where the best beehives come from."*

*Ask for catalog.* *Booklet, "Simplified Beekeeping for Beginners," free.*

# A New Helper for Beekeepers



(Patent applied for.)

1. **Uncapping Stand.**
2. **Steam Generator.**
3. **Separates Honey from Cappings.**
4. **Melts wax.**
5. **Liquifies granulated honey.**
6. **Heats for bottling.**

Drains honey from cappings. Machine melts cappings and combs into wax. Double bottom steam generator prevents scorching. Can be used for heating two knives at once. Will liquify granulated honey in cans, pails or jars. Heats honey for bottling. Spigot for pouring into containers. Equipped with two capping baskets.

Illustration shows new **6 in 1 Uncapping Stand** just invented by an experienced beekeeper. Built by him for his own needs and **combines in one appliance** the many needed. So good every beekeeper should have one.

At left are shown six things it does, and from which it gets name. Replaces extra boiler for heating knife and two machines for liquifying and bottling. Costs less.

Saves every user hours of hard toil. Will do work in more thorough and efficient manner.

**ONLY $30.00 COMPLETE.**

Sells at low price of $30.00—less than all equipment it replaces—direct from manufacturer. F. O. B. Center City, Minn. Guaranteed for satisfaction or money refunded.

**FULL PARTICULARS FREE.**

New circular just prepared tells the many things we can't tell in this ad. Tells just how it works and what it does. Pictures describe every part. Just send us a postal today. Please mention this paper when writing.

**BERGQUIST MANUFACTURING COMPANY, CENTER CITY, MINN.**

# Honey Containers

| | |
|---|---|
| 5-lb. friction top pails, per reshipping case of 12 | $1.10 |
| 10-lb. friction top pails, per reshipping case of 6 | .90 |
| 5-lb. friction top pails, per crate of 100 | 6.75 |
| 5-lb. friction top pails, per crate of 200 | 13.50 |
| 10-lb. friction top pails, per crate of 100 | 10.00 |
| 60-lb. square honey cans, per case of 2 cans | 1.25 |
| 60-lb. square honey cans, per case of 1 can | .80 |
| 60-lb. square honey cans, in bulk, each | .40 |
| 16-oz. round glass jars, per reshipping case of 24 | 1.25 |
| 6½-oz. tin top tumblers, per reshipping case of 48 | 1.60 |

Write for prices on shipping cases. Our cases are neat, smooth and strong, made from white winter-sawed basswood.

**SECTIONS!**

No. 2 4¼x4¼x1⅞ two-beeway, per 1000 ..... $9.00

We have an oversupply of these sections, and are offering them at this reduced price for a limited time only.

We carry a full line of Bee Supplies; write for our free descriptive catalog and price list.

**AUGUST LOTZ CO., BOYD, WIS.**

# *Early Order Discounts*

**EVERYONE**, including the beekeeper, is looking for a way to save money—this is one of them.

**SECTIONS, SECTION HOLDERS, SEPARATORS, HOFFMAN BROOD FRAMES—ALL AT LIBERAL DISCOUNTS.** Write in for quotations on the supplies you need for the 1924 season.

Orders forwarded immediately on receipt. Newly manufactured stock on hand with more in the process.

*Charles Mondeng*

146 Newton Ave. N. and
159 Cedar Lake Road.

MINNEAPOLIS, MINN.

# Townsend's Bulletin No. 16

One man evidently had not read all of the Townsend Bulletins thus far, and asked if I bred leather-colored Italians. I repeat: Forty years ago Dr. Shaw began importing queens direct from Italy for his own use in building up what is now known as the SHAW "line-bred" strain of three-banded Italian bees. During the first eight years of his beekeeping experience, several importations were secured. From these early lots of imported queens the present strain of bees have been developed. They are still leather-colored, but by selection the third band is more distinct than in the original importation.

The successful breeder of any stock, no matter whether bees or sheep or what-not, is all the time selecting the best as breeders and constantly culling out the poorest. That is just what the writer has been doing with the SHAW "line bred" Italian bees, for the last two seasons. It is along the same line that has made Townsend's Quality Extracted Honey bring two or three cents a pound above market price. Don't you see? the man who would sacrifice quantity for quality production in honey, would quite likely carry out this same idea, or even more so in the breeding up of a strain of three-banded bees that would be of superior quality.

There is more to this story! I did not advertise and sell a single queen during June of this year, but kept my breeder at the job culling out any queens not coming up to a given standard, and he now writes that he has many young tested queens ready for the August and September market.

Here is the best point yet! Miss Flo Shaw, who has done the grafting of the cells that have brought forth much of the improvement in the SHAW "line-bred" strain of bees, grafted the "lion's share" of the cells of the queens that are now in the hives and nuclei that I am offering for sale. The price is unreasonably low for the quality of the queens that are being offered: i. e., one tested queen, $2.00, or 6 for $10.00. No untested queens of the SHAW strain for sale.

Note.—All office work done at Northstar, Michigan, and queens will be mailed direct from my breeding yards at Loreauville, La., "Where the good queens come from." Address E. D. Townsend, Northstar, Michigan.


## Lockhart's Silver-gray Carniolans

41 years of experience, breeding this wonderful race of bees; 37 years a breeder and importer of queens. They are very hardy, gentle, prolific, great workers and builders of very white comb; use mostly wax in place of propolis. Not inclined to rob like Italians; winter extra well and build up quickly in spring. Prices of queens for July to November: Untested queens, $1.00 each; 6, 95c each; 12, 90c each; 25, 80c each; 50 or more, 75c each. Select Untested Queens, $1.50 each; 6, $1.45 each; 12, $1.40 each; 25, $1.25 each; 50 or more, $1.00 each. Tested Queens, $3.00 each. Select Tested, $5.00. Breeders, $10.00. Safe arrival and satisfaction guaranteed in U. S. and Canada. No foul brood here.

**F. A. Lockhart & Co., Lake George, NewYork**

4% BANKING BY MAIL

THE HOME OF THE HONEY-BEE

WHEN you deposit a dollar or more in this bank, and leave it here in accordance with our Savings Department rules, you are sure to get back more money than you deposit. Your money grows at 4% compound interest.

DEPOSITS RECEIVED BY MAIL.

The SAVINGS DEPOSIT BANK CO. MEDINA OHIO.

A. T. SPITZER PRES. E. R. ROOT VICE PRES. E. B. SPITZER CASHIER

# REQUEEN
## With Forehand's Queens

*They satisfy for they are guaranteed to do so.*

**UNTESTED QUEENS**, 1, 90c; 12 to 24, 75c; 25 to 99, 70c; 100 up, 60c.
**SELECT UNTESTED**, 1, $1.00; 12 to 24, 90c; 25 up, 85c.

*N. Forehand, Gonzalez, Florida.*

## American Beauty Italian Queens

Produce bees of superior quality. This year's breeder, selected from an 80-colony yard, gave a surplus of 100 lbs. by going one mile farther to a field of alsike clover. No other bees in this locality gave any surplus. These queens, on being mated to drones from the best high-producing strains, are gentle, hardy, very long-lived bees; much above the average in color. We guarantee purity and satisfaction. This is our 38th year. Untested, after June 15, $1.00 each. Tested, $2.00. Breeders, $5.00 and $10.00 each. No disease, safe delivery.

**E. F. QUIGLEY & SON, Unionville, Mo.**

—QUEENS OF—

## Moore's Strain

**OF ITALIANS PRODUCE WORKERS**
**That fill the supers quick**
**With honey nice and thick.**

They have won a world-wide reputation for honey-gathering, hardiness, gentleness, etc.

Untested queens, $1.00; 6, $5.00; 12, $9.00. Select Untested, $1.25; 6, $6.00; 12, $11.00. Safe arrival and satisfaction guaranteed. Circular free.

**J. P. MOORE, QUEEN BREEDER,**
**Route 1, Morgan, Kentucky.**

## CARNIOLANS

of a pure and well-bred strain show the following traits to a high degree: They are very prolific at all times, very gentle, build very white combs, gather but little propolis, little inclined to rob, are a long-tongued bee and will work industriously on red clover, are especially fine workers on buckwheat, resist brood diseases as well as any race or strain of bees, and do not swarm excessively if intelligently managed. Ask for my free paper, "**MERITS OF THE CARNIOLAN BEE.**" It outlines successful plans of managing this race of bees.

I can supply Carniolan queens of my own strain, 12 years' selection and breeding; **JON STRGAR, CARNIOLA, EUROPE, strain.** Breeders imported 1923; Italian, C. B. Hamilto.. strain. The mother of this breeder produced 577 finished sections of comb honey.

1 select untested queen (either strain)..$1.10
12 select untested queens (either strain) 12.00
Select Tested Queen (either strain) .... 2.25

Queens reared in August during the buckwheat flow are the very finest. August is a good time to replace all inferior, failing or otherwise unsatisfactory queens.

Safe arrival by mail and satisfaction guaranteed.

**ALBERT G. HANN**
**GLEN GARDNER, NEW JERSEY.**

## Italian Queens

Can also furnish a few Goldens. Untested, $1.00 each; 6, $5.50; 12 or more, 90c each. Satisfaction, prompt delivery and safe arrival guaranteed.

**RONALD KIRK, ROCKTON, PA.**

## Scott Queens are Good Queens

They are giving excellent results among hundreds of beekeepers and will do the same for you. Young queens now mean good wintering and a crop next season. Three-banded queens in August and September—One, $1.25; six, $7.00; dozen, $13.00.

**The Scott Apiaries, La Grange, Indiana.**

*"The World is Our Market"*

## Benninghof Farm Queens

**PRODUCTION, GENTLENESS, COLOR**

For the first time in 1923 we brought to the attention of the American beekeepers our strain of Italian Bees, which we had been perfecting for the previous 20 years, to secure a race of bees superior to any that could be purchased.

In order that the beekeepers of the country might share in the advantages of these superior bees we offered for sale to interested parties a limited number of these excellent queens.

The results last season were so highly satisfactory to our customers that we again place before the discriminating beekeeping public our superior queens.

| | 1 | 6 | 12 |
|---|---|---|---|
| **UNTESTED** . . . . . | **$1.00** | **$5.50** | **$10.50** |
| **TESTED** . . . . . | **1.50** | **8.00** | **15.00** |

**FOR FALL REQUEENING AT $85.00 A HUNDRED.**

**BENNINGHOF FARM, STATION F, COLUMBUS, OHIO**

*Honey for Sale---Case or Carlot*

# QUEENS 75c

**BY RETURN MAIL**

**Mr. Beekeeper, now is the time to give NORMAN BROS.' 3-banded Italian Queens a trial.**

Head your colonies with a 75c queen, not a cheap queen but a queen of the best at a cheap price and watch them build up and prove to your satisfaction. You risk not a brown penny; if you are not satisfied, just return them, and we will replace or refund your money. Isn't this a fair proposition to any one that purchases queens? When you introduce NORMAN BROS. queens, beekeepers, you can feel assured you have a good queen, one that will do her duty and as good as can be bought for the money; you will have a queen which is backed by years of improving and selecting from the finest mothers and mated to drones that are selected. Our bees are hardy, prolific, disease-resisting and honey-gatherers.

**PRICES JUNE AND JULY.**

| | 1 | 6 | 12 | 100 |
|---|---|---|---|---|
| Unt. Queens ..... | $0.75 | $4.40 | $8.50 | $65.00 |
| Select Untested ... | .90 | 5.25 | 10.00 | 75.00 |
| Tested Queens .... | 1.50 | 9.00 | 17.00 | |
| Select Tested ..... | 1.75 each. | | | |

Guarantee.—We guarantee pure mating, safe arrival, free from disease and satisfaction in U. S. A. and Canada.

## NORMAN BROS. APIARIES

**NAFTEL, ALABAMA**

# $1 and $1.50

**MAJOR'S IMPROVED QUEENS OF SUPREME QUALITY.**

**Three-banded Italian Queens.**

So many beekeepers lose good queens in introducing them. After several years of using push-in-the-comb cages, I am thoroughly convinced the push-in-the-comb cage is the only cage to use for safe introduction of queens. For that reason I have invented a push-in-the-comb cage, one that will go through the mail with candy, bees and queen already in the push-in-the-comb cage. No extra work to introduce queens in my new cage. The kind of letters I receive daily:

"Duanesburg, N. Y., July 12, 1923.
"H. N. Major, South Wales, N. Y.

"Dear Sir—The queens arrived in fine shape and are dandies; this is the third season I have ordered queens from you. I find that your bees are hustlers, gentle, evenly marked and, the best of all, they winter well in this cold climate. In the last eight years I have had queens from over a dozen queen-breeders, and I consider yours the best. I wish I had my 275 colonies all headed with your queens. Respectfully yours, Seward Van Auken."

I guarantee pure mating, safe arrival, free from disease. All orders greatly appreciated and acknowledged the same day as received. Order now to avoid delay.

Select untested queen in my push-in-the-comb cage, $1.50 each. Select untested in small mailing cage, as we always used, $1.00 each. Make all foreign money orders payable to post office of East Aurora, N. Y. (not including Canada).

**H. N. MAJOR, SOUTH WALES, N. Y.**

# Connecticut Valley Apiaries

**OFFER YOU "PRODUCTION BRED" ITALIAN BEES AND QUEENS**

**From queen and drone mothers that are carefully selected. Our stock is hardy, gentle, very prolific and is winning favor as a honey-producing strain wherever it is introduced, both here and abroad.**

**UNTESTED QUEENS: 1, $1.00;**
**12, $10.00; 50, $40,00; 100, $75.00.**

## A. E. Crandall, Berlin, Connecticut

# Queens *Berry Select Quality* Queens

**We offer at before-the-war prices. Attention:**
**1 TO 12 AT 60c EACH; 12 TO 50 AT 55c EACH; 50 UP, 50c EACH.**

After 28 years of select breeding our strain of three-banded bees continue to excel for gentleness, disease-resisting qualities and honey production. These queens are reared by Berry in person and are truly "Berry Queens." "Nough said."

We guarantee every queen we send out to give entire satisfaction. Otherwise we will cheerfully replace free of charge or refund the cash paid us. Wings of queens we clip free of charge for the asking. Descriptive price list on request.

## *M. C. Berry & Co., Box 697, Montgomery, Ala.*

## *Leininger's Strain of Italians*

We have been queen-breeders for nearly 50 years. In all this time we have tested nearly every strain of Italian bees in the U. S. A. By this careful selection and breeding we have succeeded in producing a strain of bees surpassed by none but superior to many, bees that are gentle and great honey gatherers.

Therefore if you buy queens from us you may be assured that back of them are nearly 50 years of careful breeding for the production of honey.

As we are located in a red clover belt, it is but natural that our bees should have a long-tongue reach.

We will sell queens from this superior strain as follows:

Untested, 1 to 5, $1.00 each; 6, $5.50; 12, $10.50; 100, $85.00.

Tested, $1.50 each; select breeders, $5.00 to $10.00 each.

Safe arrival and satisfaction guaranteed.

***Fred Leininger & Son***

***Delphos. Ohio***

# ACHORD QUEENS

Splendid honey-producing stock. Bred in two of the largest, best-equipped queen-rearing apiaries in the South. Vigorous, nicely marked, good natured, three-banded Italians. Promptly mailed to you in large, clean cages. Safe arrival guaranteed.

Select untested, $1.00 each; 5 for $4.50; 10 for $8.00; 20 or more, 75c each. Select tested, $1.50 each.

Large or small orders filled with equal promptness. Please ask your rural carrier to notify you of their arrival so they will not be left in a hot mail box.

**W. D. ACHORD**

**FITZPATRICK, ALABAMA.**

# Knee Deep

Mack's Bees are now knee deep in clover and busily engaged in pulling hundreds of the very finest queen-cells. These cells will produce queens of the highest quality and they will soon be on their way gaining him an endless number of new customers. Please remember that a trial order will convince you where to place your future orders, and that you will be an enthusiastic booster of Mack's Queens and his unequaled service. Queens sent by return mail or soon thereafter. Postage paid on queens everywhere.

**THREE-BAND ITALIANS ONLY.**

| | 1to 49. | 50 to 99. | 100 up. |
|---|---|---|---|
| Untested ..... | $1.00 ea. | $0.95 ea. | $0.90 ea. |
| Sel. Untested.. | 1.25 ea. | 1.20 ea. | 1.15 ea. |

Everything guaranteed but safe introduction.

***Herman McConnell***

**(THE BEE AND HONEY MAN)**

***Robinson, Illinois***

# Prepare

for next year's honey crop by requeening your colonies now with our high-grade Italian queens. Safe arrival and fullest satisfaction guaranteed.

Select Untested, 1 to 4, $1.00; 5 to 9, 90c; 10 or more, 80c.

## Frank Bornhoffer

**Tobasco, Ohio**

# Selected Queens

**QUEENS BY RETURN MAIL**

Our queens are giving wonderful results; their colonies are producing large yields of honey. Try them and be pleased as others are. Mr. J. C. Smith, Washington, D. C., states: "I have never made a purchase that gave the satisfaction that your queens did; their quality was extremely high and I have never had better." We guarantee every queen we ship to give entire satisfaction. Pure mating, safe arrival and prompt delivery guaranteed. Wings clipped free of charge on request.

**PRICES.**

| | |
|---|---|
| **Select Untested** | **$0.75 each** |
| **50 or more** | **.65 each** |
| **Select Tested** | **1.50 each** |

**Hayneville Apiary Company**

**Hayneville, Alabama**

# Success

in selling **QUEENS**, like success in any other business, is largely the result of a sincere effort to give satisfactory service.

**Prices for July and August.**

Untested, select, $1.00 each; $10.00 per dozen; $80.00 per 100. Tested, $2.00 each; $18.00 per dozen. We have either Golden or three-band stock.

Pure mating of queens, freedom from disease and safe arrival of all queens.

**Middle Tennessee Apiaries**

**Columbia, Tennessee**

# Queens Cheaper

**67½c Each in Hundred Lots.**

Time to do that wholesale requeening. "Spring management should be done for the most part in the fall of the preceding year." This truth is coming home to more and more of the extensive and wide-awake beekeepers every year. GOOD QUEENS ARE REQUISITE FOR GOOD WINTERING. One of our customers says the following:

"Gentlemen: I wish to congratulate you on the hardiness of your bees. I outdoor wintered 210 colonies, and came out with 203 strong ones and three weak ones. Considering that we did not have many warm days, and temperature as low as 18 degrees below zero I consider it mighty good. Your bees have proven themselves hardy, prolific and hustlers. And above all, I am glad to say that Jensen's stands for a square deal. If you will look over your past records you will see that I have been a customer of yours for some time and hope to remain one."—Herbert J. Link, LaPorte, Ind.

New prices: Untested, each, 90c; dozen, $9.00; hundred, $67.50.

We guarantee: Pure mating, freedom from disease, safe arrival and satisfaction. We do not guarantee introduction, but will make prompt replacement of any queens returned to us in the original cage, just as received through the mail.

**"WE CARE FOR YOUR QUEEN WANTS."**

***Jensen's Apiaries***

***Crawford, Miss.***

# DO YOU WANT A BIG HONEY CROP?

**THEN HEAD YOUR COLONIES WITH OUR IMPORTED STOCK FROM ITALY.**

Mr. Albert Peterson, Turtle Lake. Wis., writes: "Your queens have given me the very best satisfaction. My best colony last year was headed with one of your queens which stored 325 pounds of clover honey."

## THAGARD'S ITALIAN QUEENS

**BRED FOR QUALITY**

have stood the test with backlotters and America's greatest honey producers. They are hardy, gentle, prolific and wonderful honey-gatherers.

Untested: 1 to 4, $1.00; 5 to 11, 80c; 12 to 25, 75c. Write for prices in large lots.

**THE V. R. THAGARD CO.**

**GREENVILLE, ALA.**

# QUEENS QUEENS

# SUPERIOR ITALIAN QUEENS

## STOP! LOOK! LISTEN!

It is now time to consider what queens will prepare your colonies for winter and your 1925 crop. After you have decided what increase you will make and what colonies you will requeen and when will be the best time to do this work, order your queens so you will not be disappointed. We are going to tell you what we have; you can be the judge whether or not you can afford to risk us with your orders for QUEENS. We have everything else out of the way and not a thing to do but take care of your orders for queens. We have 2000 nucleus mating queens. We have every bit of this equipment in the best possible condition for producing the most and ABSOLUTELY THE BEST QUEENS THAT IT IS POSSIBLE TO PRODUCE. Everything that forethought can supply is ready to handle your order to your entire satisfaction. We have sufficient and competent office help that will acknowledge every order, whether for one or one thousand queens, and advise you when you can expect your queens. Most of the time we are able to ship orders of 100 within two days of receipt. If you are in a rush, get your bank to wire night letter for queens you want, and guarantee payment. The time you will save will more than pay for the message.

ONE UNTESTED ITALIAN QUEEN.....$1.00; ten or more, $0.75
ONE TESTED ITALIAN QUEEN..... 1.25; ten or more, 1.00

Special prices on lots of 100, delivered as you want them.

A FULL LINE OF SUPPLIES. SEND FOR CATALOG.

**THE STOVER APIARIES, MAYHEW, MISS.**

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# *Requeen*

## *With Knight's Line Bred, Pure Three-Banded, Leather-Colored Italians*

They are prolific, long-lived, gentle and honey-getters. Mr. A. G. Simpkins, Matewan, W. Va., says: "Have ordered queens from various queen-raisers but have always received from one to three supers of honey more from yours than from queens purchased elsewhere."

Mr. C. F. Brown, Fairchild, Wis., says: "Have kept bees for 52 years. Yours are the best I ever owned."

Mr. Fred Brittain of Ideal Apiaries, Humptulips, Wash., says: "I still have two of your queens, this being their fourth year, and intend to breed from them this season. I have been unable to purchase queens equal to them for wintering and honey production."

A few cents in price should not prohibit one from purchasing the best of queens.

PRICES BALANCE OF SEASON, SELECT (ONE GRADE) UNTESTED.

| | |
|---|---|
| 1 TO 4, INCLUSIVE | $1.00 EACH |
| 5 TO 9, INCLUSIVE | .90 EACH |
| 10 TO 24, INCLUSIVE | .80 EACH |
| 25 OR MORE | .75 EACH |
| TESTED | 2.00 EACH |

Can make shipment by return mail or on dates to suit purchaser. Safe arrival, pure mating, perfect queens and perfect satisfaction guaranteed. No disease.

***Jasper Knight, Hayneville, Alabama.***

# Today

When planning to requeen will you take into consideration the value, to you, of the planning we did 32 years ago?

When laying the foundation of our strain, THRIFTINESS was not forgotten.

In the 32 years that have passed careful selecting and breeding has improved on the fine qualities of our bees until today we have a strain of THRIFTY bees that is **surpassed by none but superior to many.**

We offer you the best of a life's work and study among the bees.

If today you decide to requeen with Forehand's Three Bands—the thrifty kind—you will experience satisfaction in your wintering and in the harvesting of your 1925 honey crop.

**Untested Queens**..1, 90c; 12 to 24, 75c; 25 to 99, 70c; 100 up, 60c
**Select Untested** ..1, $1.00; 12 to 24, 90c; 25 up, 85c

## W. J. Forehand & Sons
*Fort Deposit, Alabama*

# Citronelle Queens

**BRIGHT ITALIANS**

# 50c each

**Untested, 50c each, any number, from 1 to 1000. Select Untested, 60c each. Tested, $1.25. We are offering our queens at the above special price in order to get more BEEKEEPERS to try our stock. SATISFACTION AND PROMPT SERVICE GUARANTEED.**

## The Citronelle Apiaries
*Citronelle, Alabama*

*Introducing*

MR. T. W. BURLESON

*of Waxahachie, Texas*

Burleson is one of those conspicuous successes who make us all feel that we would like to go and do likewise. He will tell you that bees furnish a comfortable and happy living.

He is also a constant and satisfied user of Dadant's Wired Foundation.

He recognizes the efficiency of it; that it pays to use it. The above apiary is one of his 25 yards, totaling over 1,000 colonies of bees. The combs he holds are fine examples of those drawn from Wired Foundation.

Let him tell you what he thinks of it.

"I have always been a crank about good combs. Always, while going through my yards, I keep a lookout for imperfect combs, and, when I find one, out it comes. I have tried many ways to get good combs and the best of these is Wired Foundation with the slotted bottom-bar frame. Uusing this foundation and getting the combs built during a honey flow is the best way I know of to secure first-class combs."

DADANT'S WIRED NON SAG FOUNDATION

DADANT & SONS HAMILTON, ILL. U.S.A.

NO SAG.

EVERY INCH FOR BROOD AND HONEY.

NO WIRING.

NO WASTE SPACE.

*When you plan your foundation buying--- consider what this means to you*

DADANT & SONS, HAMILTON, ILLINOIS

**Makers of Dadant's Famous Foundation**
**Wired — Plain — Surplus**

**Made only of Pure Beeswax.**

**Sold by dealers everywhere—write for name of nearest dealer.**

Send your order to H. & H. Thank you.

# SUPPLIES

Send your order to H. & H. Thank you.

MADE BY THE DIAMOND MATCH COMPANY.

## *Special Discount*

On all orders for bee supplies deduct the following discount from our catalogue prices:

Orders for $10.00 and over.....10%
Orders for $25.00 and over.....15%
All orders for $100.00 and over.....20%

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**GLASS AND TIN HONEY CONTAINERS.**
Prices are net, no discount on containers.

| | |
|---|---|
| 2½-lb. cans in crates of 100 | $4.00 a crate |
| 5-lb. pails, in crates of 100 | 6.50 a crate |
| 10-lb. pails, in crates of 50 | 5.00 a crate |
| 160-lb. kegs | 1.20 each |

For packing extracted honey we recommend our 160-lb. keg. We prefer to purchase both Clover and Buckwheat Honey packed in these kegs.

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**GLASS JARS WITH GOLD LACQUERED, WAX-LINED SCREW CAPS.**

| | |
|---|---|
| 8-oz. honey capacity, 3-doz. per carton | $1.35 per carton |
| 16-oz. honey capacity, 2-doz. per carton | 1.20 per carton |
| 3-lb. or qt. capacity, 1-doz. per carton | .90 per carton |

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**HOFFMAN & HAUCK, INC.**
**OZONE PARK, NEW YORK**

# *Your Combs*

*are*

# *Your Greatest Asset*

## *Save them all!*

*If they are infected with American foul brood, use*

# Hutzelman's Solution

***Order from your nearest dealer.***

*For full information write*

***J. C. Hutzelman, M. D.***

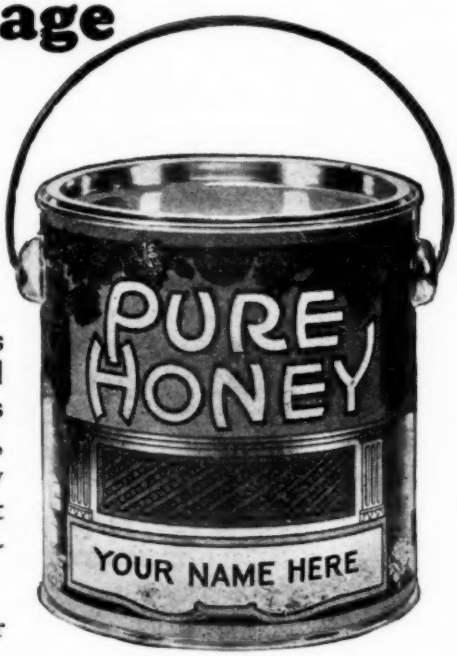
*Glendale, Ohio*

# Here's a Selling Honey Package for you—

*It's lithographed in green and red and gold. Generous space for your name. Identifies your brand.*

YOU know the advantages of a brilliantly lithographed honey package—how it stays clean and bright in the store, how it attracts customers, how it protects your brand, how it gives your honey its best selling chance.

This Canco decorated container brings you these sales advantages at very reasonable cost. It's a design that says to everyone who sees it, "Try this fine honey"—and it's a design that makes a lot of people take notice. You ought to see it yourself.




*A silent salesman ready to work for you all day long. 3 sizes—2½ lb. cans, 5 and 10 lb. pails.*

◆

***Write for sample and details***

**American Can Company**

NEW YORK CHICAGO SAN FRANCISCO PORTLAND ORE.

# American Can

CONTAINERS OF TIN PLATE · BLACK IRON · GALVANIZED IRON · FIBRE

TRADE CANCO MARK